WILLIAMS GATEWAY AIRPORT

Chapter Five
AIRPORT PLANS

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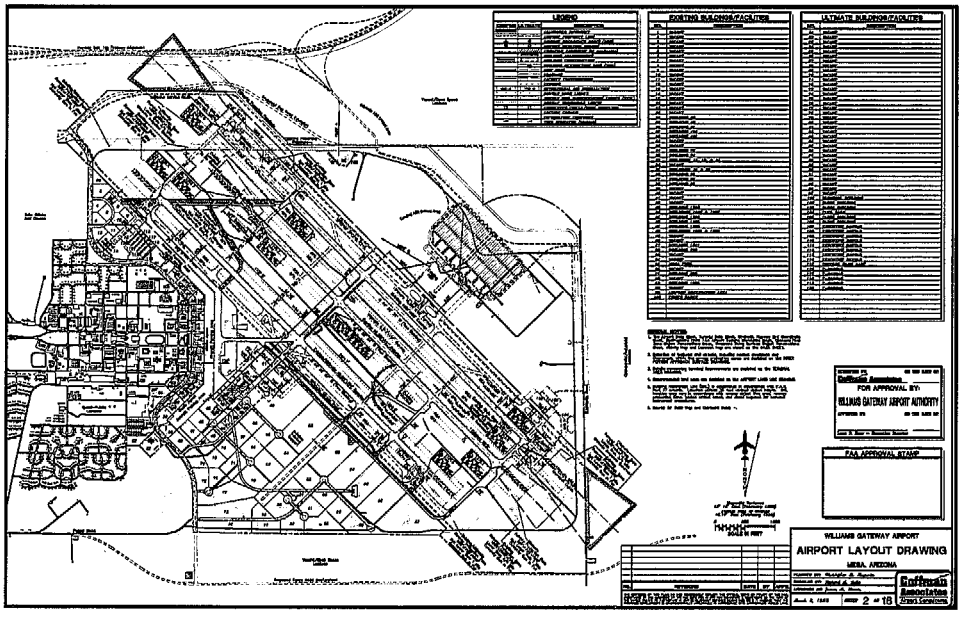


The airport master planning process has evolved through several analytical efforts in the previous chapters intended to analyze future aviation demand, establish airside and landside facility needs, and evaluate options for the future development of airside and landside facilities. Following a review of Chapter Four (Airport Development Alternatives) by the Planning Advisory Committee (PAC) and the Williams Gateway Airport Authority (WGAA) staff, the development alternatives have been refined into a single master plan concept intended to define the future use and development of Williams Gateway Airport. This chapter will provide an overview of the future use and development of Williams Gateway Airport and provide a description of the detailed airport layout plan set which will guide the WGAA in implementing the development program for Williams Gateway Airport.

MASTER PLAN CONCEPT

The Master Plan Concept includes the development necessary to accommodate the forecast demand at the airport through the planning period. The Master Plan Concept includes improvements to both airside and landside facilities. The following provides a brief discussion of the major improvements planned for the airport through the planning period.

AIRFIELD

Airfield design guidance is outlined in Federal Aviation Administration (FAA) *Advisory Circular 150/5300-13, Airport Design*. As discussed previously in Chapter Three, airfield design standards are a function of the critical design aircraft's approach speed and wingspan and the lowest approach

visibility minimums. The FAA has established an Airport Reference Code (ARC) to relate these factors to airfield design standards. For airfield design, the FAA has specified that the critical design aircraft conduct 500 or more annual operations at the airport.

As discussed in Chapter Three, the airport accommodates a wide-variety of civilian and military aircraft ranging from small single and multi-engine piston aircraft (ARCs A-I through B-I), to business turboprop and jet aircraft (ARCs B-II to D-II), and civilian and military transport aircraft (ARCs C-III to D-V). While small general aviation aircraft comprise the majority of operations, they are not considered the critical design aircraft. Large civilian and military transport aircraft conduct over 500 annual operations at the airport, and therefore are considered the critical design aircraft due to their approach speed and wingspan requirements. In the future, the airport is expected to accommodate a greater number of operations by large transport aircraft as commercial passenger service is established and air cargo use of the airport grows.

To safely accommodate commercial passenger and air cargo service at the airport, ARC D-V design standards have been applied to Runways 12L-30R and 12R-30L. This maximizes airfield capacity by providing for simultaneous operations to the these runways for all aircraft expected to use the airport. Additionally, this ensures that a runway fully capable of accommodating the entire fleet mix expected to operate at the airport through the planning period would be available should one of these runways be closed (i.e. maintenance, emergencies).

Considering that both Runway 12L-30R and Runway 12R-30L are ultimately planned to accommodate the full-range of aircraft expected to operate at the airport, Runway 12C-30C can be designed to a less demanding ARC. As detailed in the airfield capacity analysis in Chapter Four, Runway 12C-30C is expected to serve peak period departure and arrival needs. This will be especially important during the long term planning period when airfield operations are expected to represent approximately 78 percent of airfield capacity.

Since general aviation aircraft conduct the majority of operations at the airport, Runway 12C-30C will primarily serve this category of aircraft during peak periods. While Runway 12C-30C could be limited to general aviation use only, airfield capacity is enhanced if this runway could also serve a portion of the commercial passenger airline and air cargo fleet by providing an additional departure and/or landing surface should one of the outside runways be closed. Therefore, ARC D-III design standards have been designated for Runway 12C-30C. ARC D-III design standards accommodate the approach speed requirements of both general aviation and commercial turboprop and jet aircraft and the larger wingspan requirements of common transport aircraft used in commercial airline and air cargo service such as McDonnell-Douglas DC-9 and Boeing 737 aircraft. Applying ARC D-III design standards to Runway 12C-30C ensures that nearly all aircraft

expected to operate at the airport, with the exception of widebody aircraft such as McDonnell-Douglas DC-10 or Boeing 747, can utilize this runway during peak period situations.

The existing instrument landing system (ILS) approach to Runway 30C provides for approaches to landing when visibility is reduced to ¾ mile - the lowest approach visibility minimums at the airport. Consistent with previous planning, Runway 12L-30R is planned to serve as the primary instrument runway and provide for approaches to landing when visibility is reduced to one-half mile (which requires the installation of a medium intensity approach lighting system with runway alignment lighting [MALSR] to each runway end). This approach capability is expected to be provided using Global Positioning System (GPS) technology and replace the existing ILS to Runway 30C. As shown in **Table 5A**, the planned instrument approaches to each end of Runway 12L-30R require a larger runway protection zone (RPZ) when compared with the visual approaches planned for the remaining runway ends. The remaining design requirements remain essentially the same for each runway.

To accommodate the departure requirements of aircraft typically used in air cargo and passenger activities, Runway 12L-30R is planned to be extended 2,650 feet north and 550 feet south to provide an ultimate length of 12,500 feet. Prior to extending Runway 12L-30R to the north, the existing Powerline Floodway will need to be relocated along the eastern airport boundary and drain into a planned floodway adjacent to the future San Tan Freeway to north. The acquisition of avigation easements totaling approximately 84 acres is planned to protect the portions of the ultimate RPZs which extend beyond the airport boundaries at each runway end.

A full-length parallel taxiway (Taxiway C) is planned along the east side of Runway 12L-30R to accommodate future passenger terminal and air cargo activities on this side of the airfield. Taxiway A is planned to be relocated to the east to a runway/taxiway centerline separation distance of 450 feet as specified by FAA design standards. This will provide for the full use of the north apron, including the area presently dedicated for Taxiway A (which extends along the western edge of the north apron) and create an additional 65 acres of land for development along the southern half of Taxiway A.

Additional runway exit taxiways are planned for each runway. This maximizes airfield capacity by reducing the amount of time aircraft occupy the runways. Three new exit taxiways are planned for Runway 12C-30C. Ten exit taxiways, including two high speed exits, are planned for Runway 12L-30R, while two high speed exits are planned for Runway 12R-30L. Ultimately, Taxiways F, H, J, K, L, M, and P will extend between each runway and provide access to either side of the airport from any point on the runway system.

TABLE 5A
Airfield Design Standards by ARC

	Runway 12L-30R	Runway 12C-30C	Runway 12R-30L
Airport Reference Code **Approach Visibility Minimums**	D-V ½ Mile	D-III Visual	D-V One-Mile
Runway			
Width	150	150	150
Runway Safety Area (RSA)			
Width	520	520	520
Length Beyond Runway End	1,000	1,000	1,000
Object Free Area (OFA)			
Width	800	800	800
Length Beyond Runway End	1,000	1,000	1,000
Obstacle Free Zone (OFZ)			
Width	400	400	400
Length Beyond Runway End	200	200	200
Runway Centerline to:			
Parallel Taxiway Centerline	450	400	450
Edge of Aircraft Parking Apron	500	500	500
Runway Protection Zones (RPZ)			
Inner Width	1,000	500	500
Outer Width	1,750	1,010	1,010
Length	2,500	1,700	1,700
Obstacle Clearance	34:1	20:1	20:1
Building Restriction Line			
Distance from Runway Centerline	745	370	495
Taxiways			
Width		75	
Shoulder Width		35	
Safety Area Width		214	
Object Free Area Width		320	
Taxiway Centerline to:			
Parallel Taxiway/Taxilane		267	
Fixed or Moveable Object		160	
Taxilanes			
Taxilane Centerline to:			
Parallel Taxilane Centerline		245	
Fixed or Moveable Object		138	
Taxilane Object Free Area		276	

Source: FAA Airport Design Software Version 4.2D, F.A.R. Part 77

Taxiway G connects the Runway 12L, 12C, and 12R thresholds. In its present position, Taxiway G intersects each runway at an angle which can create visibility problems for departing aircraft located at the Runway 12L and 12C thresholds. For example, the entrance to Runways 12C and 12L makes it difficult to visually check the location of aircraft arriving from the north for

aircraft waiting for departure along Taxiway G. To eliminate these intersection difficulties, Taxiway G is planned to be abandoned in its present location and a new taxiway developed which would extend from the Runway 12L threshold to the north apron. This would enable the development of right-angled entrances to both Runways 12L and 12C.

Since Runway 12C-30C is expected to serve a less-demanding category of aircraft than either Runway 12L-30R or Runway 12R-30L, it is not necessary to ultimately maintain the existing length of Runway 12C-30C. Therefore, the Runway 12C threshold is planned to be relocated 987 feet to the south to intersect with the planned taxiway extending from the Runway 12L threshold to the north apron.

Planned airfield lighting improvements include the installation of precision approach path indicators (PAPIs) to the Runway 12L, 12R, 30L, and 30R ends and installing a medium intensity approach lighting system with runway alignment lighting (MALSR) at each end of Runway 12L-30R. The PAPIs will aid pilots in determining the correct descent path to these runway ends. The MALSR is required for future ½ mile visibility minimum GPS approaches to each end of Runway 12L-30R.

PASSENGER TERMINAL BUILDING

The WGAA is in the process of renovating Building 15 to serve as an initial/interim passenger terminal building. Once renovated, Building 15 will provide approximately 23,600 square feet of space for passenger terminal activities. Using the terminal area requirements prepared in Chapter Three, Building 15 can reasonably be expected to accommodate 100,000 passenger enplanements annually. At this level of enplanements, a reasonable "level of service" can be expected in the terminal throughout most of the year, i.e. comfortable standing and seating, free-moving circulation with only occasional conflicts, short processing times, and reasonable walking distances. During peak seasons (such as the Thanksgiving and Christmas seasons), congestion of public areas can be expected due to increased peak period travel. This is included in the planning standards and is generally acceptable for only short durations.

In many instances, as many as 50 percent more enplanements have been accommodated in a terminal over the design requirements. This can be the case at Williams Gateway Airport, where as many as 150,000 annual enplanements can be expected to be accommodated in Building 15 without the need to expand the building. However, at these enplanement levels, the terminal would be congested during most periods, most especially peak periods, and passenger "levels of service" could be expected to be lower due to the congestion.

Ultimately, passenger terminal services are planned to be developed along the east side of the airport due to existing site constraints near Building 15 which hinder the ability to expand Building 15 and construct sufficient automobile

parking areas. As detailed in Chapter Four, Hangar 24 would need to be removed to provide for an expansion of Building 15 to provide additional ticketing and airline office space and automobile parking areas. (Hangar 24 is eligible for nomination to the National Register of Historic Places, which can limit the ability of the WGAA to demolish this building.) Buildings 19 and 35 would also need to be removed to provide for additional parking areas near the terminal as well. While the potential development of a parking garage west of Sossaman Road could provide additional parking spaces for the terminal, short term projected terminal parking needs cannot be met at this site.

Ultimately, better vehicle access is available on the east side of the airport than is available on the west side of the airport. A dedicated terminal roadway system can be developed along the east side of the airport which would connect with Ellsworth Road to the east and Ray Road to the north. Ultimately, a dedicated interchange could be developed to provide direct access to the terminal from the San Tan Freeway. Access along the west side of the airport is limited by the capacity of Sossaman Road, which also provides access for all airport facilities located on this side of the airport.

The ultimate east terminal site has been located at approximately the midpoint of Runway 12L-30R to reduce taxi times to the terminal building. A pier finger terminal design concept has been selected for a future terminal building. A pier finger terminal design concept allows for flexibility in development since the building can be easily expanded to accommodate passenger growth. Initially, the passenger terminal is expected to be developed without the pier. Aircraft would park perpendicular to the building along the apron. As additional departure area and gates are needed, the pier would be developed and extend into the apron area. Additional ticketing and departure areas would be provided through expansions on both the north and south sides of the main terminal.

To provide for terminal development in this area it will be necessary to relocate the existing Airport Surveillance Radar (ASR) as the existing location of the ASR antenna is along an area reserved for the development of the future terminal apron and the future terminal is within the ASR critical area. As detailed in Chapter Four, the ASR is owned by the FAA and used in regional air traffic control activities. To protect the ASR from development which could interfere with the ASR signal, the FAA normally requires that development within a 1,500-foot radius of the building be of materials that would not interfere with the ASR signal, and that any structures or natural growth be located below the base of the ASR which can be located as high as 100 feet above the ground.

The ASR is planned for relocation along the northern airport boundary along the Powerline Floodway. While a portion of the ASR 1,500-foot critical area is expected to extend beyond the airport boundary once the ASR is relocated, it is not necessary for WGAA to own this property. It will be necessary, however,

to ensure that development in this area would be compatible and would not interfere with the ASR signal. This can be achieved through zoning and/or development agreements.

AIR CARGO

Presently, there are no dedicated air cargo facilities at the airport. Cargo is transferred directly from aircraft to vehicles on the apron. The development of an apron area adjacent to Taxiway K is under design and expected to initially serve air cargo activities. This makes maximum advantage of existing infrastructure improvements on this side of the airfield and reduces development costs necessary to develop facilities east of Runway 12L-30R. Ultimately, dedicated air cargo facilities are planned to be developed on the east side of the airport at the Runway 30R end to take advantage of better vehicle access and utility systems on this portion of the airport and serve long term demand.

GENERAL AVIATION

General aviation development is reserved for the north and middle apron areas. Presently, the WGAA is proceeding with T-hangar development along the western edge of the north apron. As planned, the WGAA T-hangar area is expected to accommodate approximately 82 T-hangars, eight 3,600 square-foot hangars, a covered aircraft wash facility, and self-service fuel island.

As shown in Chapter Four, all apron frontage along the north apron is occupied by existing facilities, optioned for future development, or reserved for WGAA T-hangar development. Therefore, future hangar development will need to be directed to other portions of the airport. To accommodate additional storage hangars in this area, eight hangar parcels have been reserved along the northern edge of the north apron. Airfield access is planned through the development of two access taxiways. Future fixed based operator facilities (i.e. aircraft maintenance, flight training, charter services) are planned for development along the middle apron which will ultimately serve itinerant general aviation activity once passenger terminal services are developed along the east side of the airport.

Presently, Building 19 functions as the general aviation terminal building by providing space for a pilots lounge, flight planning, and office space for flight training activities. Ultimately, Building 15 is planned to serve as the general aviation terminal once passenger terminal service is developed along the east side of the airport.

OTHER FACILITIES

The area southwest of Runway 12R-30L is reserved for industrial/commercial development. Vehicle access is planned from Sossaman Road and Pecos Road. Aviation-related development is planned for the parcels located adjacent to Taxiway A and along a taxiway extending to the west from the intersection of Taxiways L and A. The remaining parcels are reserved for commercial development without a need for airfield access.

The WGAA is completing plans for the development of a fuel farm at the south end of the south apron along Sossaman Road. This site is expected to serve aircraft fueling needs for the west side of the airport. To accommodate future airline and air cargo fuel needs, a fuel farm is planned for development along the east side of the airport.

As stated in Chapter Four, the location of Aircraft Rescue and Firefighting (ARFF) facilities are dependent upon minimum response times to the midpoint of the farthest air carrier runway as specified by Federal Aviation Regulations Part 139. While the existing ARFF facility is expected to meet this minimum response time, an ARFF facility has been planned for the east side of the airfield to better locate an ARFF facility adjacent to the primary commercial service runway and eliminate the need for ARFF vehicles from the existing ARFF facility (located along the middle apron) to cross two active runways to access Runway 12L-30R. Similar to the existing ARFF station located along the west side of the airfield, this facility will also serve structural firefighting needs to reduce operational costs. This facility is located to conveniently also serve emergency medical needs for the future passenger terminal building.

AIRPORT LAYOUT PLANS

The remainder of this chapter provides a brief description of the official layout drawings for the airport that will be submitted to the FAA and the Arizona Department of Transportation, Aeronautics Division (ADOT) for review and approval. These plans, referred to as Airport Layout Plans, have been prepared to graphically depict the ultimate airfield layout, facility development, and imaginary surfaces which protect the airport from hazards. This set of plans includes:

- Data Sheet;
- Airport Layout Plan;
- Terminal Area Drawings;
- Airport Airspace Drawing;
- Inner Portion of the Approach Surface Drawings; and
- Property Map.

The airport layout plan set has been prepared on a computer-aided drafting system for future ease of use. The computerized plan set provides detailed information of existing and future facility layout on multiple layers that permits the user to focus on any section of the airport at a desirable scale. The plan can be used as base information for design, and can be easily updated in the future to reflect new development and more detail concerning existing conditions as made available through design surveys. The airport layout plan set is submitted to the FAA for approval and must reflect all future development for which federal funding is anticipated. Otherwise, the proposed development will not be eligible for federal funding. Therefore, updating these drawings to reflect changes in existing and ultimate facilities is essential. The following provides a brief discussion of each drawing in the Airport Layout Plan set.

DATA SHEET

The data sheet summarizes detailed airport and runway data to facilitate the interpretation of the master plan recommendations.

AIRPORT LAYOUT PLAN

The Airport Layout Plan graphically presents the existing and ultimate airport layout. Both airfield and landside improvements are depicted.

TERMINAL AREA DRAWINGS

The Terminal Area Drawings provide greater detail concerning landside improvements and at a larger scale than on the Airport Layout Plan. The Terminal Area Drawings include detail concerning all existing and planned landside development on both the east and west sides of the airport. Three terminal area plans have been developed to depict development east of Runway 12L-30R, along the north and middle apron areas, and the area south of the south apron.

AIRPORT AIRSPACE DRAWING

To protect the airspace around the airport and approaches to each runway end from hazards that could affect the safe and efficient operation of aircraft arriving and departing the airport, Federal Aviation Regulations (FAR) Part 77, Objects Affecting Navigable Airspace, have been established for use by local authorities to control the height of objects near the airport. The Airport Airspace Drawing included in this Master Plan is a graphic depiction of this regulatory criterion. The Airport Airspace Drawing is a tool to aid local authorities in determining if proposed development could present a hazard to the airport and obstruct the approach path to a runway end.

The FAA advises communities to adopt local zoning ordinances based upon F.A.R. Part 77 to protect the approach paths to each runway end at the airport. Presently, there is no height and hazard zoning based upon F.A.R. Part 77 in place for Williams Gateway Airport. However, local land use guidelines set the maximum height of buildings in areas around the airport. To protect the approach surfaces to each runway end, the local communities surrounding Williams Gateway Airport may wish to explore establishing height and hazard zoning for the airport incorporating the recommendations of Airport Airspace Drawing included with this Master Plan.

To ensure that the airport is accessible for scheduled airline and air cargo activities, even during periods of low visibility and cloud ceilings, this Master Plan recommends establishing ½ mile visibility minimum GPS approaches to each end of Runway 12L-30R. All other runway ends are planned for visual approaches since the existing runway separation distances cannot provide for simultaneous approaches during low visibility and cloud ceiling situations.

The Part 77 Airspace Plan assigns three-dimensional imaginary areas to each runway. These imaginary surfaces emanate from the runway centerline

and are dimensioned according to the visibility minimums associated with the approach to the runway end and size of aircraft to operate on the runway. The Part 77 imaginary surfaces include the primary surface, approach surface, transitional surface, horizontal surface, and conical surface. Part 77 imaginary surfaces are described in the following paragraphs.

Primary Surface

The primary surface is an imaginary surface longitudinally centered on the runway. The primary surface extends 200 feet beyond each runway end and its width is determined by the type of approach established for that runway end. The elevation of any point on the primary surface is the same as the elevation along the nearest associated point on the runway centerline. Under Part 77 regulations, the primary surface for Runway 12L-30R (which is expected to accommodate ½ mile visibility minimum GPS approaches) is 1,000 feet wide. The primary surface for the remaining runways are 500 feet wide.

Situated adjacent to the runway and taxiway system, the primary surface must remain clear of unnecessary objects to allow for the unobstructed passage of aircraft. Within the primary surface, objects are only permitted if they are no taller than two feet above the ground and if they are constructed on frangible (breakaway) fixtures. The only exception to the two-foot height requirement is for objects whose location is fixed by function. A precision approach path indicator (PAPI) system is an example of an object which falls within the category of "fixed by function."

Approach Surface

An approach surface is also established for each runway. The approach surface begins at the same width as the primary surface and extends upward and outward from the primary surface end centered along an extended runway centerline. The upward slope and length of the approach surface is determined by the type of approach (existing and/or planned) to the runway end. The approach surface for the planned ½ mile visibility minimum GPS approaches to Runways 12L and 30R extend at a horizontal distance of 10,000 feet from the end of the primary surface at an upward slope of 50 to 1, then extends an additional 40,000 feet at a slope of 40 to 1 to a width of 16,000 feet. The approach surface for all other runway ends extends 10,000 feet from the end of the primary surface at an upward slope of 34 to 1 to a width of 3,500 feet.

Transitional Surface

Each runway has a transitional surface that begins at the outside edge of the primary surface at the same elevation as the runway. The transitional surface also connects with the approach surfaces of each runway. The surface rises at a slope seven to one up to a height which is 150 feet above the highest runway elevation. At that point, the transitional surface is replaced by the horizontal surface. The

transitional surface defines the location of the building restriction line.

Horizontal Surface

The horizontal surface is established at 150 feet above the highest elevation of the runway surface. Having no slope, the horizontal surface connects the transitional and approach surfaces to the conical surface at a distance of 10,000 feet from the primary surfaces of each runway.

Conical Surface

The conical surface begins at the outer edge of the horizontal surface. The conical surface then continues for an additional 4,000 feet horizontally at a slope of 20 to 1. Therefore, at 4,000 feet from the horizontal surface, the elevation of the conical surface is 350 feet above the highest airport elevation.

Obstruction Review

The WGAA is responsible for clearing any obstructions to the F.A.R. Part 77 surfaces at the airport. Obstruction data for Williams Gateway Airport is included on the Airport Obstruction Chart prepared by the National Ocean Survey. A review of the Williams Gateway Airport, Airport Obstruction Chart prepared in February 1995 indicates that 22 obstructions to F.A.R. Part 77 approach surfaces were surveyed at Williams Gateway Airport. As shown on the drawings, as of May 1999, the WGAA had removed 14 of these obstructions. The remaining obstructions include items such as windsocks and navigational aids which are permitted in the Part 77 surfaces because of their function.

INNER PORTION OF THE APPROACH SURFACE PLANS

The Inner Portion of the Approach Surface Plan is a scaled drawing of the runway protection zone (RPZ), runway safety area (RSA), obstacle free zone (OFZ), and object free area (OFA) for each runway end. A plan and profile view of each RPZ is provided to facilitate identification of obstructions that lie within these safety areas. Detailed obstruction and facility data is provided to identify planned improvements and the disposition of obstructions (as appropriate).

PROPERTY MAP

The Property Map provides information on the acquisition and identification of all land tracts under the control of the airport. Both existing and future property holdings are identified on the Property Map.

SUMMARY

The airport layout plan set is designed to assist the WGAA in making decisions relative to future development and growth at Williams Gateway Airport. The plan provides for development to satisfy expected airport needs over the next twenty years and well beyond. Flexibility will be a key to future

development since activity may not occur exactly as forecast. The plan has considered demands that could be placed upon the airport even beyond the twenty year planning period to ensure that the facility is capable of accommodating a variety of circumstances. The ALP set also provides the WGAA with options to pursue in marketing the assets of the airport for community development. Following the general recommendations of the plan, the airport can maintain it's long term viability and continue to provide air transportation services to the region.

AIRPORT LAYOUT PLANS
FOR
WILLIAMS GATEWAY AIRPORT
MESA, ARIZONA

Prepared for

WILLIAMS GATEWAY AIRPORT AUTHORITY

INDEX OF DRAWINGS

Coffman Associates
Airport Consultants

THRESHOLD SITING SURFACE OBJECT PENETRATIONS

OBJECT	PENETRATION	DISPOSITION
NONE		

OBSTACLE FREE ZONE (OFZ) OBJECT PENETRATIONS

OBJECT	PENETRATION	DISPOSITION
NONE		

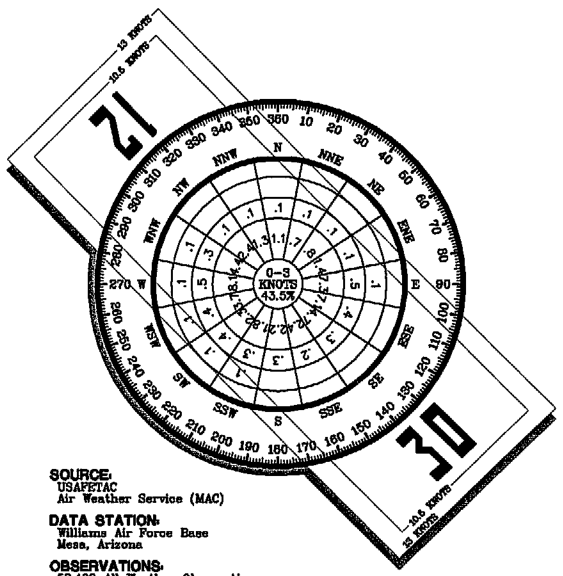
MODIFICATIONS FROM FAA AIRPORT DESIGN STANDARDS

DEVIATION DESCRIPTION	EFFECTED DESIGN STANDARD	STANDARD	EXISTING	PROPOSED DISPOSITION
NONE				

RUNWAY DATA

RUNWAY DATA	RUNWAY 12L-30R		RUNWAY 12C-30C		RUNWAY 12R-30L	
	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE
AIRCRAFT APPROACH CATEGORY–DESIGN GROUP	D–V	D–V	D–V	D–III	D–V	D–V
APPROACH VISIBILITY MINIMUMS	1 Mile, 1 Mile	1/2 Mile, 1/2 Mile	1 Mile, 1/2 Mile	1 Mile, 1 Mile	1 Mile, 1 Mile	1 Mile, 1 Mile
F.A.R. PART 77 CATEGORY	Nonprecision/Nonprecision	Precision/Precision	Nonprecision/Precision	Nonprecision/Nonprecision	Nonprecision/Nonprecision	Nonprecision/Nonprecision
RUNWAY APPROACH SURFACES	20:1/20:1	50:1/50:1	34:1/50:1	20:1/20:1	20:1/20:1	34:1/34:1
MAXIMUM ELEVATION (Above MSL)	1380	1383	1378	1378	1372	1372
RUNWAY DIMENSIONS	9,301' x 150'	12,501' x 150'	10,201' x 150'	9,214' x 150'	10,401' x 150'	10,401' x 150'
RUNWAY AZIMUTH	135° 33' 43"/315° 34' 25"	135° 33' 43"/315° 34' 25"	135° 33' 24"/315° 34' 10"	135° 33' 24"/315° 34' 10"	135° 33' 05"/315° 33' 52"	135° 33' 05"/315° 33' 52"
RUNWAY BEARING (True, Decimal Degrees)	N 44.44° E	N 44.44° E	N 44.44° E	N 44.44° E	N 44.44° E	N 44.44° E
RUNWAY WIND COVERAGE 12/15 MPH (10.5/13 KNOTS)	98.73%/99.76%	98.73%/99.76%	98.73%/99.76%	98.73%/99.76%	98.73%/99.76%	98.73%/99.76%
RUNWAY THRESHOLD DISPLACEMENT	0'/0'	0'/0'	0'/0'	0'/0'	0'/0'	0'/0'
RUNWAY STOPWAY	0'/0'	0'/0'	0'/0'	0'/0'	0'/0'	0'/0'
RUNWAY SAFETY AREA (RSA)	11,301' x 520'	14,501' x 520'	12,201' x 520'	11,214' x 520'	12,401' x 520'	12,401' x 520'
RUNWAY SAFETY AREA (RSA) BEYOND RWY END	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'
RUNWAY OBSTACLE FREE ZONE (OFZ)	9,701' x 400'	12,901' x 400'	10,601' x 400'	9,614' x 400'	10,801' x 400'	10,801' x 400'
RUNWAY OBJECT FREE AREA (OFA)	11,301' x 800'	14,501' x 800'	12,201' x 800'	11,214' x 800'	12,401' x 800'	12,401' x 800'
RUNWAY OBJECT FREE AREA (OFA) BEYOND RWY END	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'	1,000'/1,000'
TAKEOFF RUN AVAILABLE (TORA)	9,301'/9,301'	12,501'/12,501'	10,201'/10,201'	9,214'/9,214'	10,401'/10,401'	10,401'/10,401'
TAKEOFF DISTANCE AVAILABLE (TODA)	9,301'/9,301'	12,501'/12,501'	10,201'/10,201'	9,214'/9,214'	10,401'/10,401'	10,401'/10,401'
ACCELERATE-STOP DISTANCE AVAILABLE (ASDA)	9,301'/9,301'	12,501'/12,501'	10,201'/10,201'	9,214'/9,214'	10,401'/10,401'	10,401'/10,401'
LANDING DISTANCE AVAILABLE (LDA)	9,301'/9,301'	12,501'/12,501'	10,201'/10,201'	9,214'/9,214'	10,401'/10,401'	10,401'/10,401'
RUNWAY PAVEMENT SURFACE MATERIAL	Concrete	Concrete	Concrete/Asphalt	Concrete/Asphalt	Concrete	Concrete
RUNWAY PAVEMENT SURFACE TREATMENT	None	None	None	None	None	None
RUNWAY PAVEMENT STRENGTH (in thousand lbs.) [1]	See Note 2 Below	55S/95D/185DT/550DDT	55S/95D/185DT/550DDT	55S/95D/185DT/550DDT	55S/95D/185DT/550DDT	55S/95D/185DT/550DDT
RUNWAY EFFECTIVE GRADIENT	0.237%	0.240%	0.318%	0.308%	0.319%	0.319%
RUNWAY TOUCHDOWN ZONE ELEVATION	1362MSL/1380MSL	1359MSL/1383MSL	1356MSL/1378MSL	1357MSL/1378MSL	1347MSL/1372MSL	1347MSL/1372MSL
RUNWAY MARKING	Precision/Precision	Precision/Precision	Precision/Precision	Nonprecision/Nonprecision	Precision/Precision	Nonprecision/Nonprecision
RUNWAY LIGHTING	HIRL	HIRL	MIRL	MIRL	MIRL	MIRL
RUNWAY APPROACH LIGHTING	None/None	MALSR/MALSR	None/MALSR 30C	None/None	None/None	None/None
TAXIWAY LIGHTING	MITL	MITL	MITL	MITL	MITL	MITL
TAXIWAY MARKING	Centerline/Signage	Centerline/Signage	Centerline/Signage	Centerline/Signage	Centerline/Signage	Centerline/Signage
TAXIWAY SURFACE MATERIAL	Asphalt/Concrete	Asphalt/Concrete	Asphalt/Concrete	Asphalt/Concrete	Asphalt/Concrete	Asphalt/Concrete
TAXIWAY WIDTH	75'	75'	75'	75'	75'	75'
TAXIWAY SAFETY AREA WIDTH	214'	214'	214'	214'	214'	214'
TAXIWAY OBJECT FREE AREA WIDTH	320'	320'	320'	320'	320'	320'
RUNWAY ELECTRONIC NAVIGATIONAL AIDS	None	GPS (12L/30R)	ILS (30C) GPS (30C) VOR or TACAN (30C)		None	
RUNWAY VISUAL NAVIGATIONAL AIDS	None	PAPI-4 (12L/30R)	VASI-4 R (12C/30C)	VASI-4 R (12C/30C)	None	PAPI-4 (12R/30L)

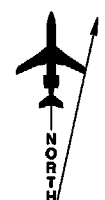
[1] Pavement strengths are expressed in Single(S), Dual (D), Dual Tandem (DT) and Double Dual Tandem (DDT) wheel loading capacities.
[2] Existing runway 12L-30R pavement strengths are 75,000 S, 180,000 D, 358,000 DT, 455,000 DC-10-10, 490,000 L-1011 and 850,000 B-747 wheel loading capacities.



SOURCE:
USAFETAC
Air Weather Service (MAC)

DATA STATION:
Williams Air Force Base
Mesa, Arizona

OBSERVATIONS:
53,403 All Weather Observations
Date 1976-1986



Magnetic Variance
12° 15' East (February 1999)
Annual Rate of Change
15.17' West (February 1999)

ALL WEATHER WIND COVERAGE

RUNWAYS	10.5 KNOTS/12 MPH	13 KNOTS/15 MPH
Runway 12-30	98.73%	99.76%

RUNWAY END COORDINATES (NAD 83)

RUNWAY		ULTIMATE	ULTIMATE
Runway 12L	Latitude	33° 19' 03.321" N	33° 19' 22.123" N
	Longitude	111° 39' 40.721" W	111° 40' 02.676" W
Runway 30R	Latitude	33° 17' 57.615" N	33° 17' 53.831" N
	Longitude	111° 38' 24.004" W	111° 38' 19.463" W
Runway 12C	Latitude	33° 19' 03.399" N	33° 18' 56.446" N
	Longitude	111° 39' 57.317" W	111° 39' 49.174" W
Runway 30C	Latitude	33° 17' 51.342" N	33° 17' 51.342" N
	Longitude	111° 38' 33.171" W	111° 38' 33.171" W
Runway 12R	Latitude	33° 19' 03.606" N	33° 19' 03.606" N
	Longitude	111° 40' 22.316" W	111° 40' 22.316" W
Runway 30L	Latitude	33° 17' 50.146" N	33° 17' 50.146" N
	Longitude	111° 38' 56.517" W	111° 38' 56.517" W

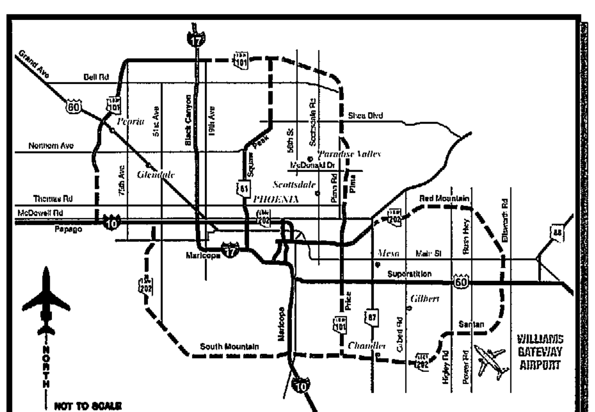
AIRPORT DATA

Williams Gateway Airport (IWA)

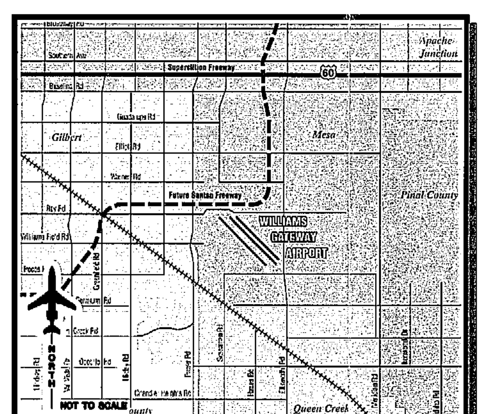
OWNER: Williams Gateway Airport Authority	AIRPORT NPIAS CODE: RL
CITY: Mesa, Arizona	COUNTY: Maricopa, Arizona
RANGE: 6 East TOWNSHIP: 10/11 North	CIVIL TOWNSHIP: N/A

		EXISTING	ULTIMATE
AIRPORT SERVICE LEVEL		General Aviation	Commercial Service
AIRPORT REFERENCE CODE		D–V	D–V
DESIGN AIRCRAFT		Boeing 747	Boeing 747
AIRPORT ELEVATION		1380 MSL	1383 MSL
MEAN MAXIMUM TEMPERATURE OF HOTTEST MONTH		108.4° F (July)	108.4° F (July)
AIRPORT REFERENCE POINT (ARP) COORDINATES (NAD 83)	Latitude	33° 18' 28.164" N	33° 18' 30.346" N
	Longitude	111° 39' 19.640" W	111° 39' 20.257" W
AIRPORT INSTRUMENT APPROACHES		ILS (30C) GPS (30C) VORTAC (30C)	GPS (12L-30R) GPS (12R-30L)
AIRPORT and TERMINAL NAVIGATIONAL AIDS		ASR Rotating Beacon Localizer/GS ATCT	ASR Rotating Beacon ATCT VORTAC
GPS Approach		30C	12L/30R

LOCATION MAP



VICINITY MAP



No.	REVISIONS	DATE	BY	APP'D.
1	–	–	–	–

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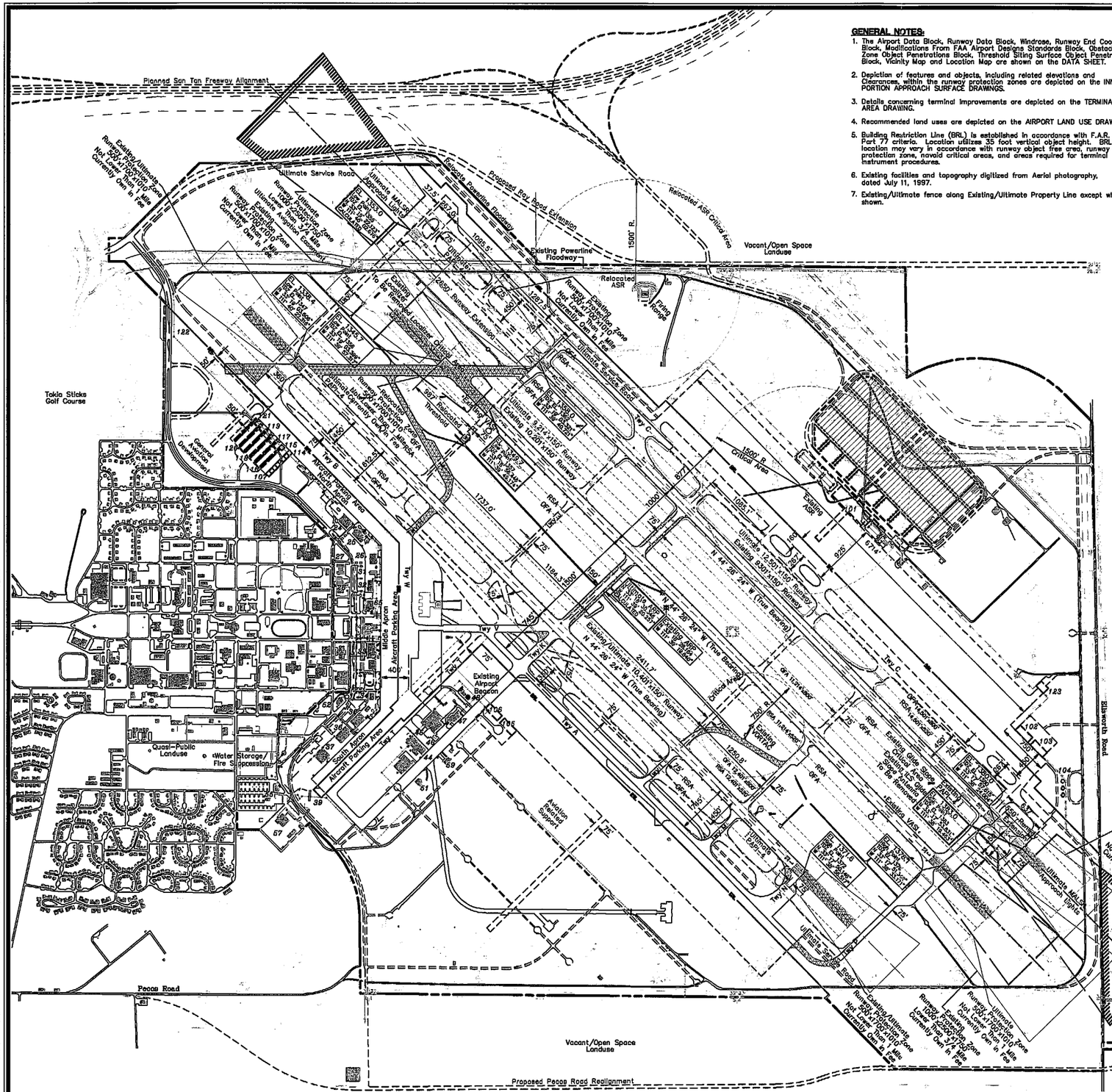
WILLIAMS GATEWAY AIRPORT
AIRPORT DATA SHEET
MESA, ARIZONA

PLANNED BY: Christopher M. Hugunin
DETAILED BY: Richard A. Lally
APPROVED BY: James M. Harris

April 28, 1999 — SHEET 1 OF 15

Coffman Associates
Airport Consultants



GENERAL NOTES:

1. The Airport Data Block, Runway Data Block, Windrose, Runway End Coordinate Block, Modifications From FAA Airport Designs Standards Block, Obstacle Free Zone Object Penetrations Block, Threshold Siting Surface Object Penetrations Block, Vicinity Map and Location Map are shown on the DATA SHEET.
2. Depiction of features and objects, including related elevations and clearances, within the runway protection zones are depicted on the INNER PORTION APPROACH SURFACE DRAWINGS.
3. Details concerning terminal improvements are depicted on the TERMINAL AREA DRAWING.
4. Recommended land uses are depicted on the AIRPORT LAND USE DRAWING.
5. Building Restriction Line (BRL) is established in accordance with F.A.R. Part 77 criteria. Location utilizes 35 foot vertical object height. BRL location may vary in accordance with runway object free area, runway protection zone, navaid critical areas, and areas required for terminal instrument procedures.
6. Existing facilities and topography digitized from Aerial photography, dated July 11, 1997.
7. Existing/Ultimate fence along Existing/Ultimate Property Line except where shown.

BUILDINGS/FACILITIES

Parcel	DESCRIPTION
24	BUILDING 46
25	BUILDING 45
26	BUILDING 41
27	BUILDING 490
28	BUILDING 491
31	BUILDING 42
32	BUILDINGS 61 & 76
33	BUILDINGS 15, 19, & 24
34	HANGAR
35	BUILDINGS 31 & 33
36	BUILDING 32
37	BUILDING 37
38	BUILDING 63
39	FUEL FARM
43	BUILDING 1095
44	BUILDINGS 1085 & 1087
45	BUILDING 1084
46	BUILDING 1086
47	BUILDING 1080
48	BUILDINGS 1081 & 1089
61	BUILDING 1641
62	BUILDING 666
66	AIRFIELD FUEL FARM
67	BUILDING 633
69	BUILDING 1090
85	ARFF

ULTIMATE BUILDINGS/FACILITIES

NO.	DESCRIPTION
101	TERMINAL BUILDING
102	CARGO BUILDING
103	CARGO BUILDING
104	FUEL FARM
105	CARGO BUILDING
106	CARGO BUILDING
107	EXECUTIVE HANGAR
108	EXECUTIVE HANGAR
109	EXECUTIVE HANGAR
110	EXECUTIVE HANGAR
111	EXECUTIVE HANGAR
112	EXECUTIVE HANGAR
113	EXECUTIVE HANGAR
114	EXECUTIVE HANGAR
115	COVERED WASH RACK
116	T-HANGAR
117	T-HANGAR
118	T-HANGAR
119	T-HANGAR
120	T-HANGAR
121	T-HANGAR
122	AIRPORT OBSERVATION AREA
123	ARFF

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		ABANDONED PAVEMENT (To Be Removed)
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVGATION EASEMENT (if applicable)
		BUILDING ABANDONMENT (To Be Removed)
		BUILDING CONSTRUCTION
	BRL	BUILDING RESTRICTION LINE (BRL)
		DIRT ROAD
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
VASI-4	PAPI-4	NAVIGATIONAL AID INSTALLATION (GVCI)
		RUNWAY EDGE LIGHTS
		RUNWAY THRESHOLD LIGHTS and REIL
		SEGMENTED CIRCLE/WIND INDICATOR
		SECTION CORNER
		TOPOGRAPHY
		WIND INDICATOR (Lighted)

RUNWAY END COORDINATES (NAD 83)

RUNWAY		ULTIMATE	ULTIMATE
Runway 12L	Latitude	33° 19' 03.381" N	33° 15' 22.123" N
	Longitude	111° 39' 40.751" W	111° 40' 02.670" W
Runway 30R	Latitude	33° 17' 57.615" N	33° 17' 53.931" N
	Longitude	111° 38' 24.004" W	111° 38' 19.465" W
Runway 12C	Latitude	33° 19' 09.399" N	33° 18' 56.446" N
	Longitude	111° 39' 57.317" W	111° 39' 49.174" W
Runway 30C	Latitude	33° 17' 51.348" N	33° 17' 51.348" N
	Longitude	111° 38' 33.171" W	111° 36' 33.171" W
Runway 12R	Latitude	33° 19' 03.606" N	33° 18' 03.606" N
	Longitude	111° 40' 22.316" W	111° 40' 22.316" W
Runway 30L	Latitude	33° 17' 50.146" N	33° 17' 50.146" N
	Longitude	111° 38' 56.517" W	111° 38' 56.517" W

SUBMITTED BY: ON THE DATE OF:

Coffman Associates

FOR APPROVAL BY:

WILLIAMS GATEWAY AIRPORT AUTHORITY

APPROVED BY: ON THE DATE OF:

Lynn F. Kusy – Executive Director

FAA APPROVAL STAMP

NORTH

Magnetic Variance
12° 15' East (February 1999)
Annual Rate of Change
15.17' West (February 1999)

0 800 1600
SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D
1	-	-	-	-

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WILLIAMS GATEWAY AIRPORT

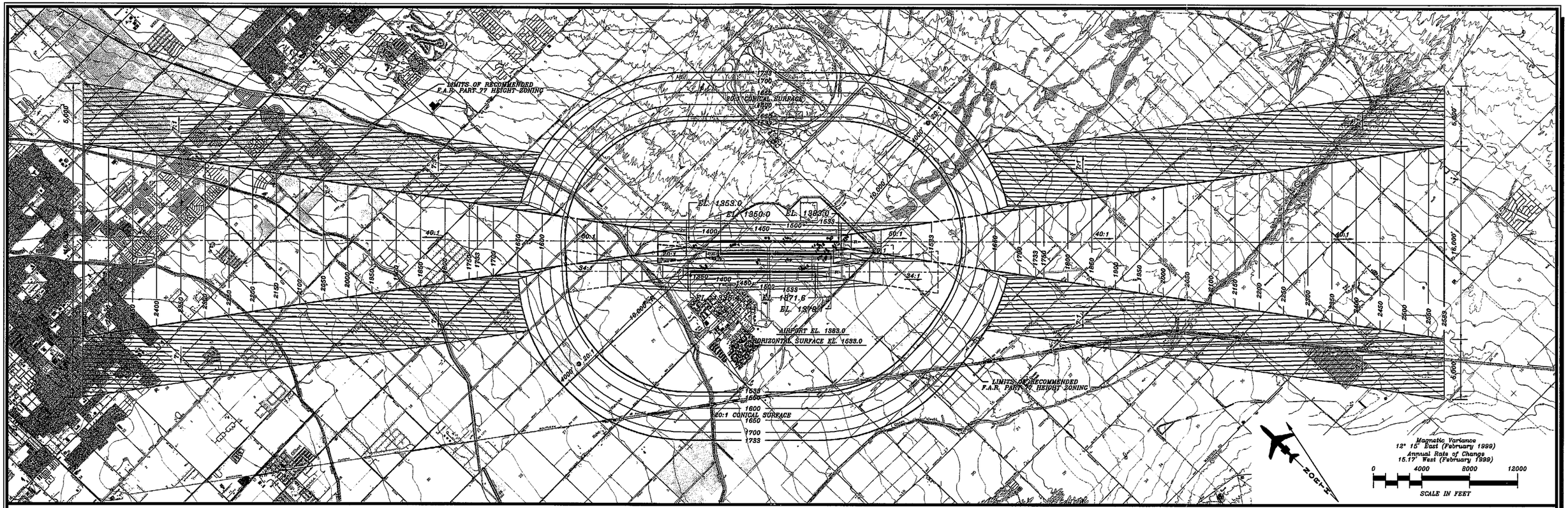
AIRPORT LAYOUT PLAN

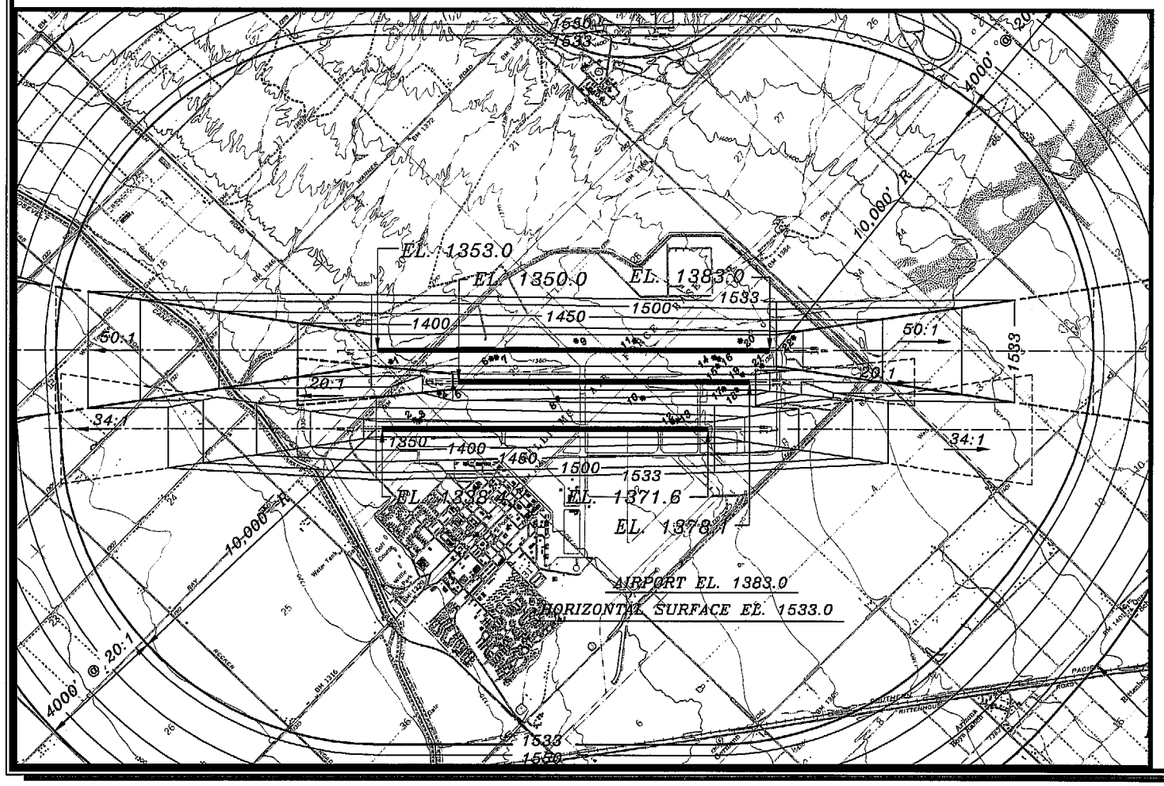
MESA, ARIZONA

PLANNED BY: Christopher M. Huguenin
DETAILED BY: Richard A. Lally/Larry Johnson
APPROVED BY: James M. Harris

December 15, 1999 | SHEET 2 OF 15

Coffman Associates
Airport Consultants





OBSTRUCTION LEGEND

- OBSTRUCTION
- GROUP or MULTIPLE OBSTRUCTIONS
- TOPOGRAPHIC OBSTRUCTION

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the primary, transitional, and horizontal Part 77 surfaces, is illustrated on the AIRPORT AIRSPACE DRAWING, sheet 4.
3. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the APPROACH ZONE PROFILES DRAWING, sheet 5 and 6.
4. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the INNER PORTION OF RUNWAY APPROACH SURFACE DRAWING, sheets 7, 8, 9 and 10.
5. Existing and future height and hazard ordinances are to be amended and/or referenced upon approval of updated AIRPORT AIRSPACE DRAWING.
6. Additional obstruction data is illustrated on National Ocean Survey document OC 884, AIRPORT OBSTRUCTION CHART.

OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
1. BUSH	1353 MSL	PRIMARY SURFACE	1353 MSL	–	REMOVED BY WILLIAMS GATEWAY AIRPORT AUTHORITY
2. OL ON WINDSOCK	1365 MSL	TRANSITIONAL SURFACE	1348 MSL	17'	NO ACTION
3. OL ON BUILDING	1362 MSL	TRANSITIONAL SURFACE	1341 MSL	–	REMOVED BY WILLIAMS GATEWAY AIRPORT AUTHORITY
4. OL ON WINDSOCK	1389 MSL	TRANSITIONAL SURFACE	1380 MSL	9'	NO ACTION
5. ROD ON OL POLE	1365 MSL	PRIMARY SURFACE	1350 MSL	–	REMOVED BY WILLIAMS GATEWAY AIRPORT AUTHORITY
6. OL ON WINDSOCK	1377 MSL	PRIMARY SURFACE	1356 MSL	21'	NO ACTION
7. OL ON BUILDING	1374 MSL	PRIMARY SURFACE	1356 MSL	–	REMOVED BY WILLIAMS GATEWAY AIRPORT AUTHORITY
8. OL ON EQUIPMENT	1381 MSL	PRIMARY SURFACE	1353 MSL	–	REMOVED BY WILLIAMS GATEWAY AIRPORT AUTHORITY
9. TREE	1372 MSL	PRIMARY SURFACE	1365 MSL	–	REMOVED BY WILLIAMS GATEWAY AIRPORT AUTHORITY
10. ANT ON OL VORTAC	1406 MSL	PRIMARY SURFACE	1402 MSL	4'	NO ACTION
11. BUSH	1383 MSL	PRIMARY SURFACE	1369 MSL	–	REMOVED BY WILLIAMS GATEWAY AIRPORT AUTHORITY
12. OL ON BUILDING	1387 MSL	PRIMARY SURFACE	1368 MSL	–	REMOVED BY WILLIAMS GATEWAY AIRPORT AUTHORITY
13. OL ON WINDSOCK	1391 MSL	TRANSITIONAL SURFACE	1370 MSL	21'	NO ACTION
14. OL ON BUILDING	1395 MSL	PRIMARY SURFACE	1377 MSL	–	REMOVED BY WILLIAMS GATEWAY AIRPORT AUTHORITY
15. OL ON GLIDESLOPE	1422 MSL	PRIMARY SURFACE	1377 MSL	45'	NO ACTION
16. OL ON WINDSOCK	1400 MSL	PRIMARY SURFACE	1377 MSL	23'	NO ACTION
17. ROD ON OL POLE	1391 MSL	PRIMARY SURFACE	1376 MSL	–	REMOVED BY WILLIAMS GATEWAY AIRPORT AUTHORITY
18. OL ON WINDSOCK	1397 MSL	PRIMARY SURFACE	1377 MSL	20'	NO ACTION
19. REFLECTOR	1389 MSL	PRIMARY SURFACE	1378 MSL	–	REMOVED BY WILLIAMS GATEWAY AIRPORT AUTHORITY
20. BUSH	1391 MSL	PRIMARY SURFACE	1381 MSL	–	REMOVED BY WILLIAMS GATEWAY AIRPORT AUTHORITY
21. BUSH	1390 MSL	PRIMARY SURFACE	1383 MSL	–	REMOVED BY WILLIAMS GATEWAY AIRPORT AUTHORITY
22. BUSH	1395 MSL	50:1 APPROACH SURFACE	1394 MSL	–	REMOVED BY WILLIAMS GATEWAY AIRPORT AUTHORITY

No.	REVISIONS	DATE	BY	APP'D.
		–	–	–

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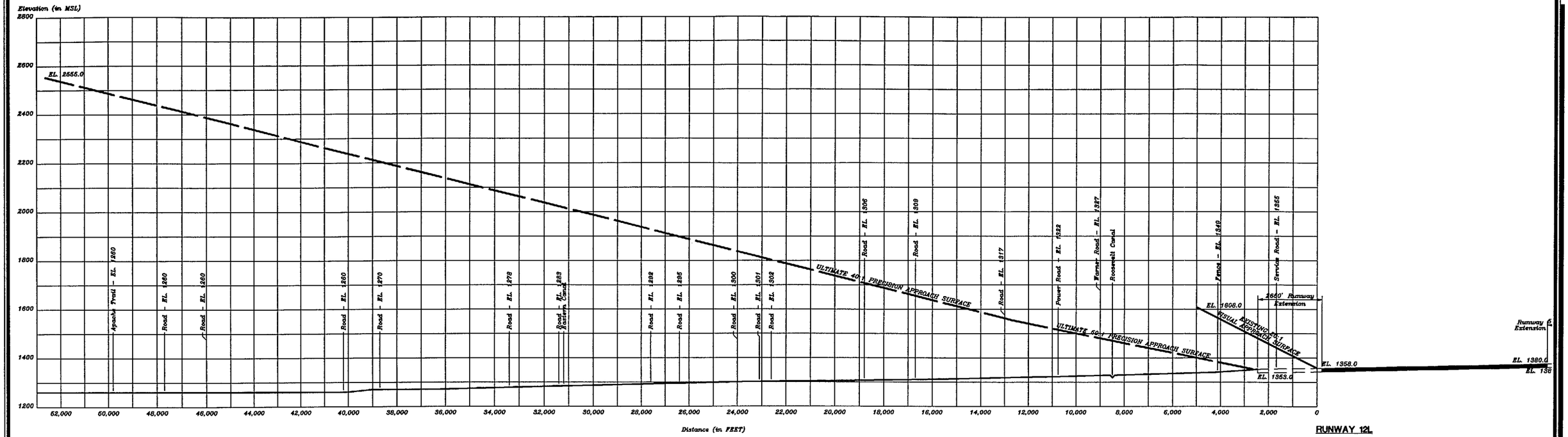
WILLIAMS GATEWAY AIRPORT

AIRPORT AIRSPACE DRAWING

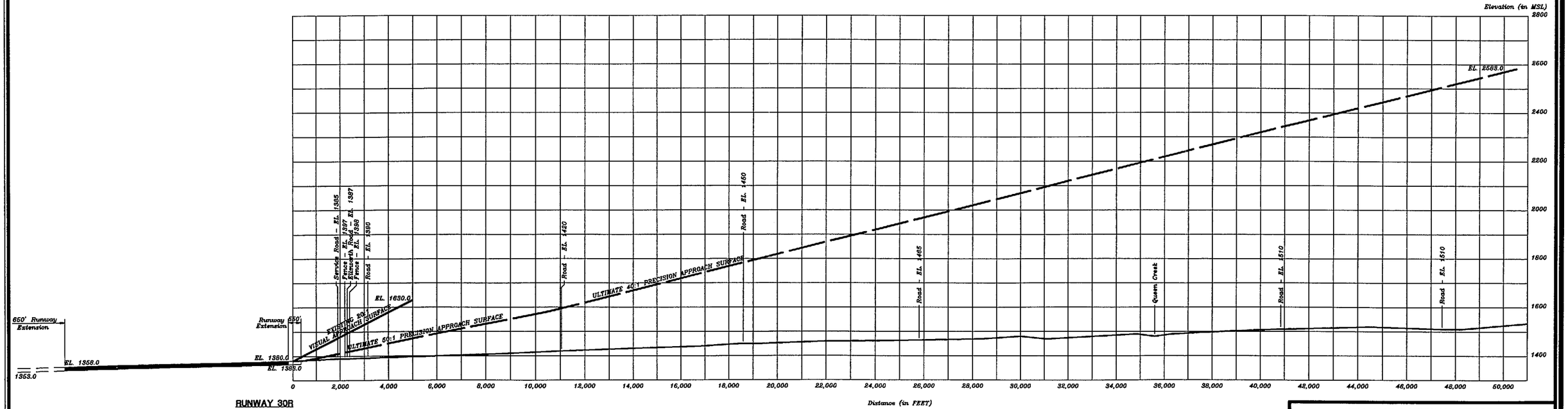
MESA, ARIZONA

PLANNED BY: Christopher M. Kasparian
DETAILED BY: Larry B. Johnson
APPROVED BY: James M. Harris
April 28, 1999

Coffman Associates
Airport Consultants



RUNWAY 12L



RUNWAY 30R

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway and elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the RUNWAY APPROACH ZONES PROFILES, sheets 5 and 6 of these plans.
3. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the INNER PORTION OF RUNWAY APPROACH SURFACE DRAWING, sheets 7, 8, 9, 10, 11 and 12 of these plans.
4. Additional obstruction data is illustrated on National Ocean Survey document OC 74, AIRPORT OBSTRUCTION CHART.

0 200 400
VERTICAL SCALE IN FEET
0 2000 4000
HORIZONTAL SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
1	-	-	-	-

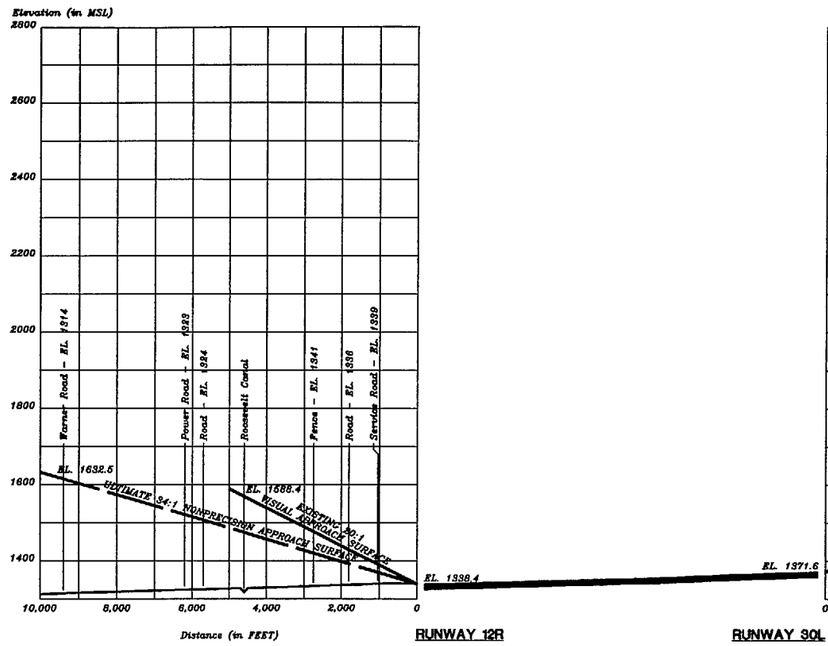
WILLIAMS GATEWAY AIRPORT

RUNWAY 12L-30R APPROACH ZONE PROFILES

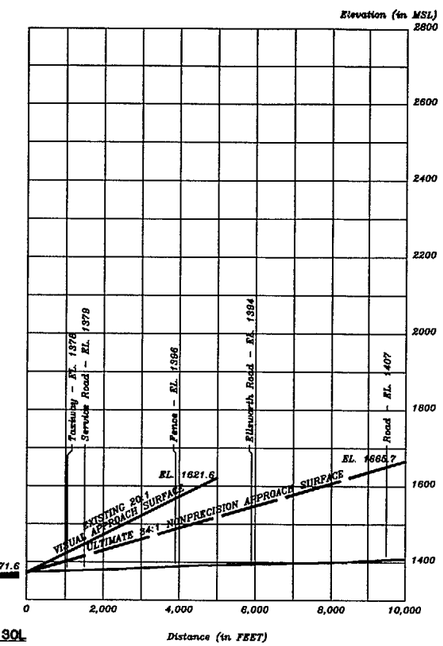
MESA, ARIZONA

PLANNED BY: Christopher M. Ferguson
DETAILED BY: Richard A. Lilly
APPROVED BY: James M. Harris
April 28, 1999

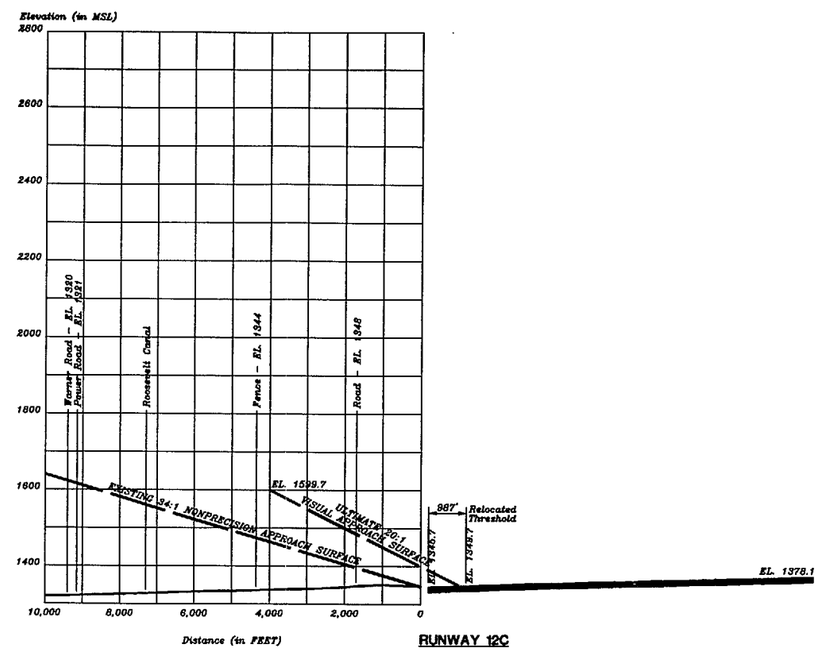
Coffman Associates
Airport Consultants



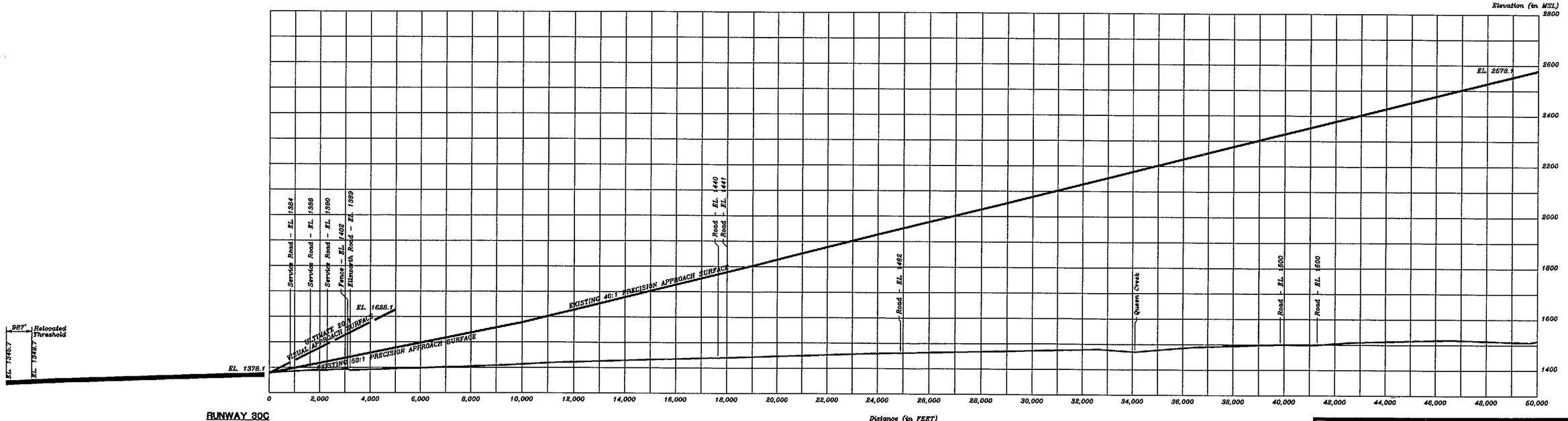
RUNWAY 12R



RUNWAY 30L



RUNWAY 12C



RUNWAY 30C

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the RUNWAY APPROACH ZONES PROFILES, sheets 5 and 6 of these plans.
3. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the INNER PORTION OF RUNWAY APPROACH SURFACE DRAWING, sheets 7, 8, 9, 10, 11 and 12 of these plans.
4. Additional obstruction data is illustrated on National Ocean Survey document OC 74, AIRPORT OBSTRUCTION CHART.

0 200 400
VERTICAL SCALE IN FEET
0 2000 4000
HORIZONTAL SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D
1	-	-	-	-

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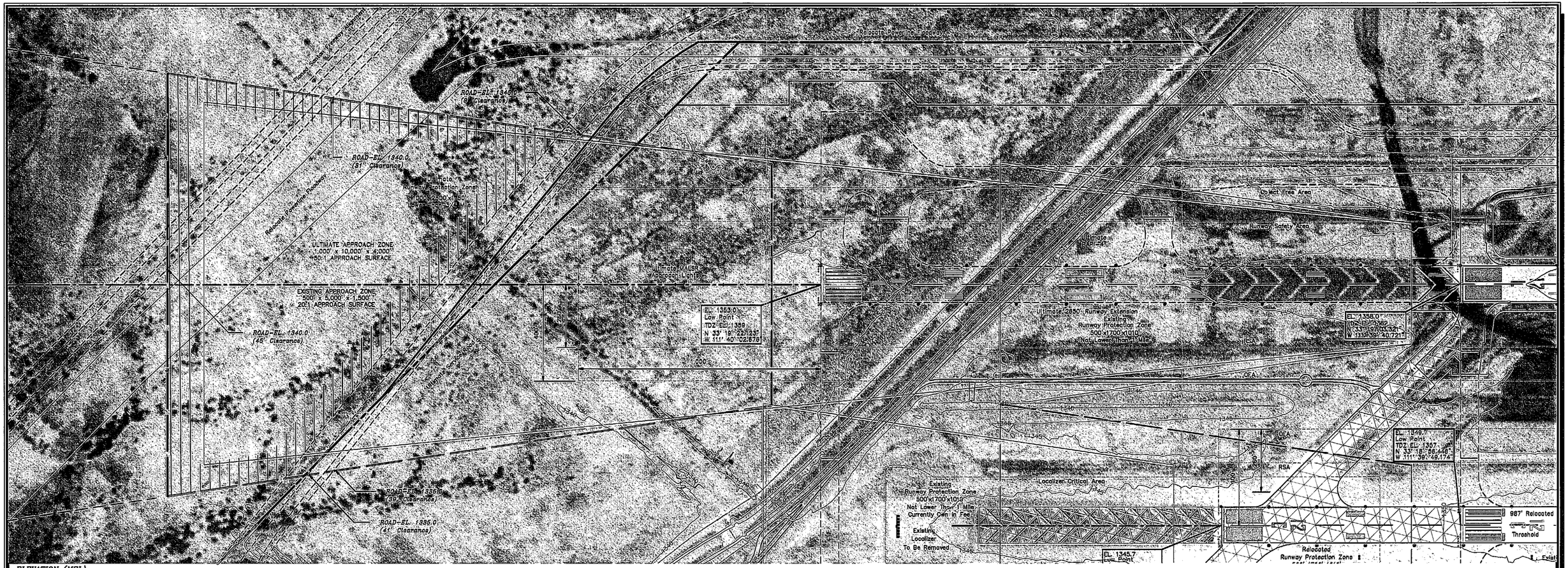
WILLIAMS GATEWAY AIRPORT

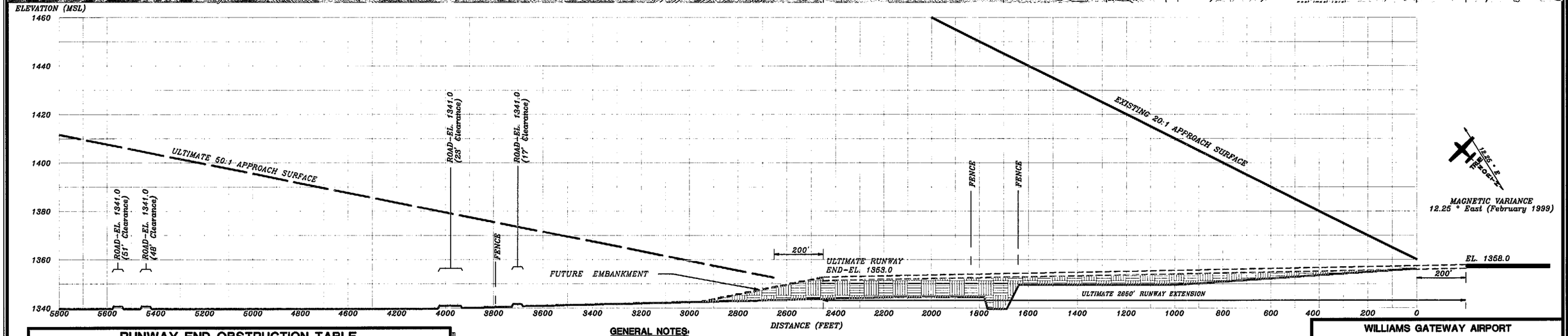
RUNWAYS 12C-30C/12R-30L APPROACH ZONE PROFILES

MESA, ARIZONA

PLANNED BY: Christopher M. Kuguru
DETAILED BY: Richard A. Lolly
APPROVED BY: James M. Harris
April 28, 1999
SHEET 5 OF 15

Coffman Associates
Airport Consultants





MAGNETIC VARIANCE
12.25 ° East (February 1999)

RUNWAY END OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
None	–	–	–	–	–

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the primary, transitional, and horizontal Part 77 surfaces, is illustrated on the AIRPORT AIRSPACE DRAWING.
3. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the APPROACH ZONE PROFILES DRAWING.
4. Distance for road obstructions and clearances reflect a safety clearance of 10' for dirt roads or private roads, 15' for noninterstate roads, 17' for interstate roads, and 23' for railroad.

0 20 40
VERTICAL SCALE IN FEET
0 200 400
HORIZONTAL SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
	-	-	-	-

WILLIAMS GATEWAY AIRPORT

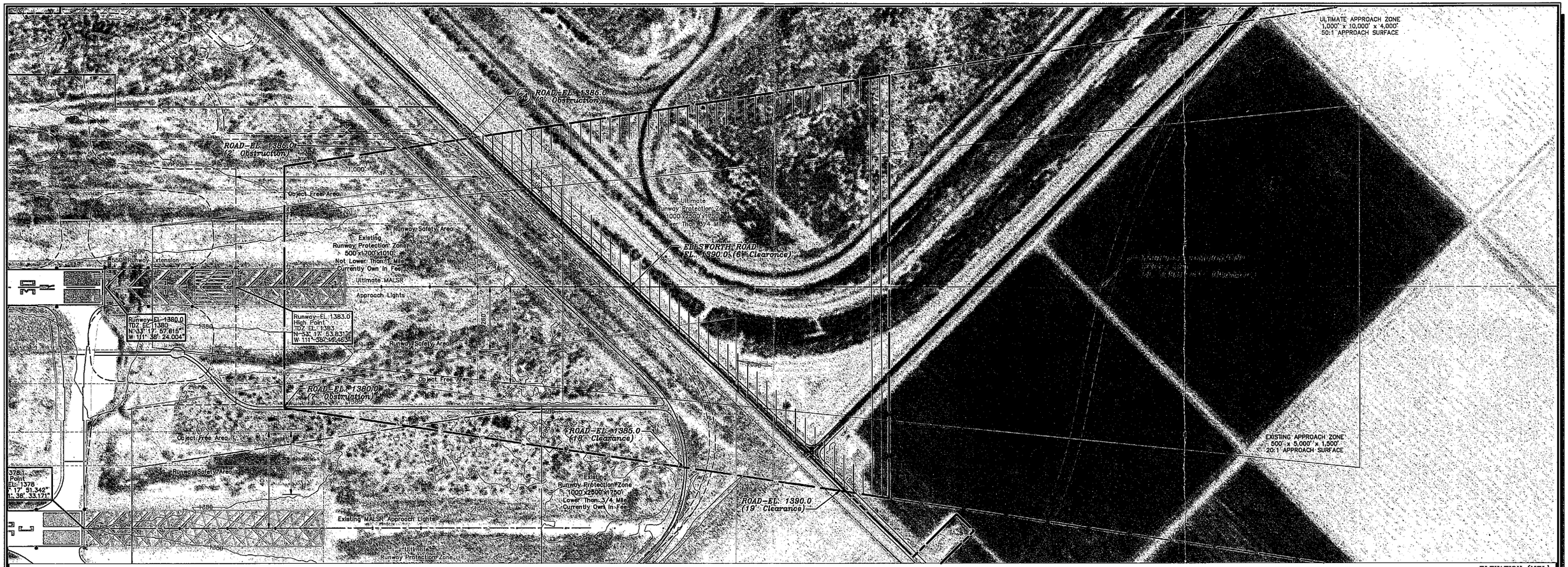
INNER PORTION OF RUNWAY 12L APPROACH SURFACE DRAWING

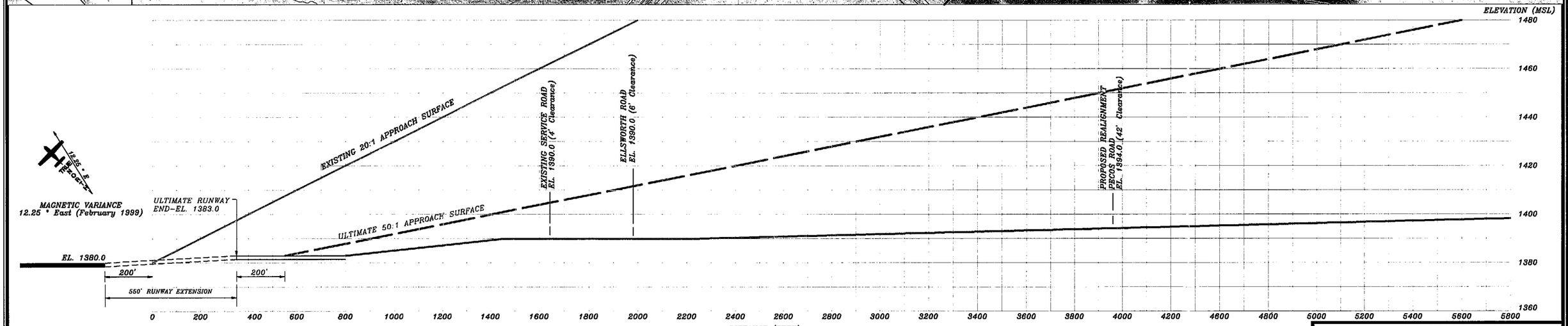
MESA, ARIZONA

PLANNED BY: Christopher M. Hagunin
DETAILED BY: Larry D. Johnson
APPROVED BY: James M. Howis

December 14, 1999 SHEET 6 OF 15

Coffman Associates
Airport Consultants





RUNWAY END OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
24. ROAD	1400 MSL	50:1 APPROACH	1398 MSL	2'	REQUEST AERONAUTICAL STUDY

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the primary, transitional, and horizontal Part 77 surfaces, is illustrated on the AIRPORT AIRSPACE DRAWING, sheet 4.
3. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the APPROACH ZONE PROFILES DRAWING, sheet 5 and 6.
4. Distance for road obstructions and clearances reflect a safety clearance of 10' for dirt roads or private roads, 15' for noninterstate roads, 17' for interstate roads, and 23' for railroad.

0 20 40
VERTICAL SCALE IN FEET
0 200 400
HORIZONTAL SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
	-	-	-	-

WILLIAMS GATEWAY AIRPORT

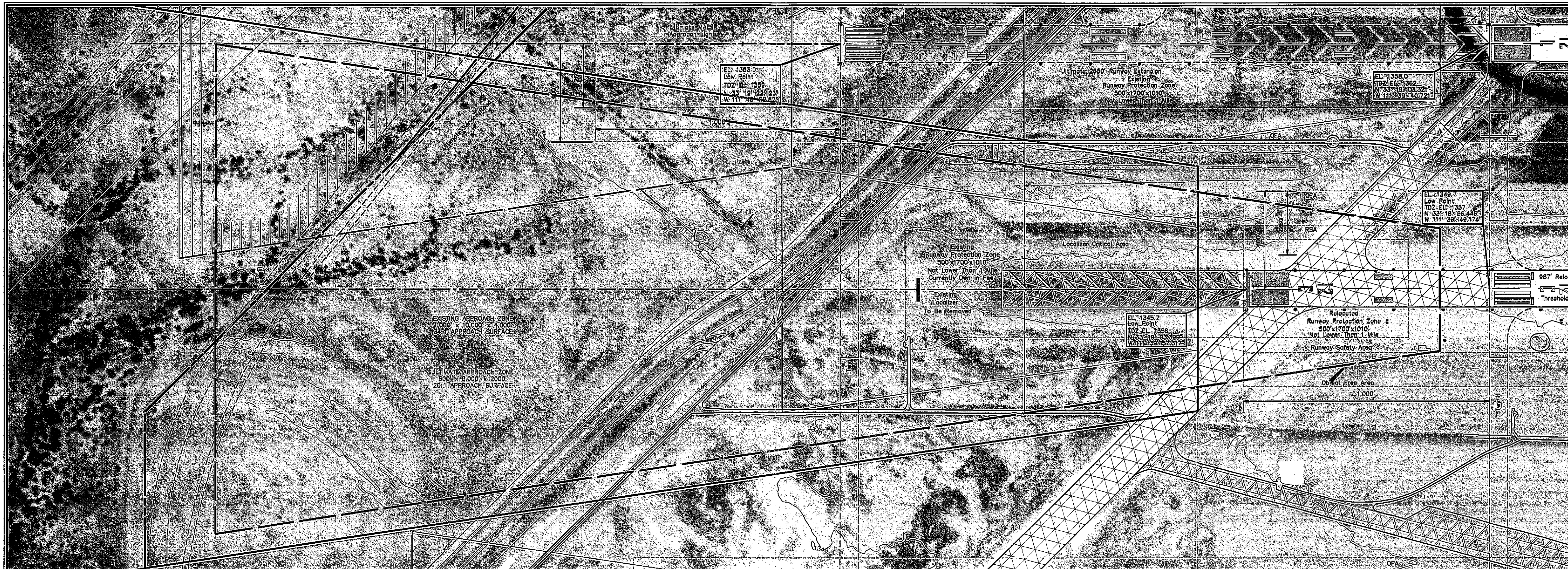
INNER PORTION OF RUNWAY 30R APPROACH SURFACE DRAWING

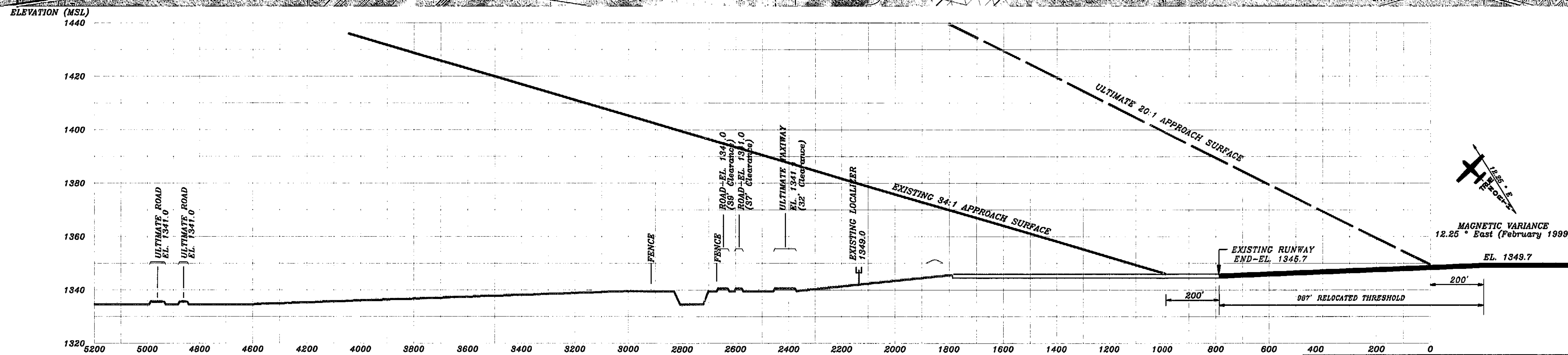
MESA, ARIZONA

PLANNED BY: Christopher M. Hagemier
DETAILED BY: Larry D. Johnson
APPROVED BY: James M. Howe

December 14, 1999 SHEET 7 OF 15

Coffman Associates
Airport Consultants





RUNWAY END OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
None	-	-	-	-	-

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the primary, transitional, and horizontal Part 77 surfaces, is illustrated on the AIRPORT AIRSPACE DRAWING.
3. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the APPROACH ZONE PROFILES DRAWING.
4. Distance for road obstructions and clearances reflect a safety clearance of 10' for dirt roads or private roads, 15' for noninterstate roads, 17' for interstate roads, and 23' for railroad.

0 20 40
VERTICAL SCALE IN FEET

0 200 400
HORIZONTAL SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
1	-	-	-	-

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WILLIAMS GATEWAY AIRPORT

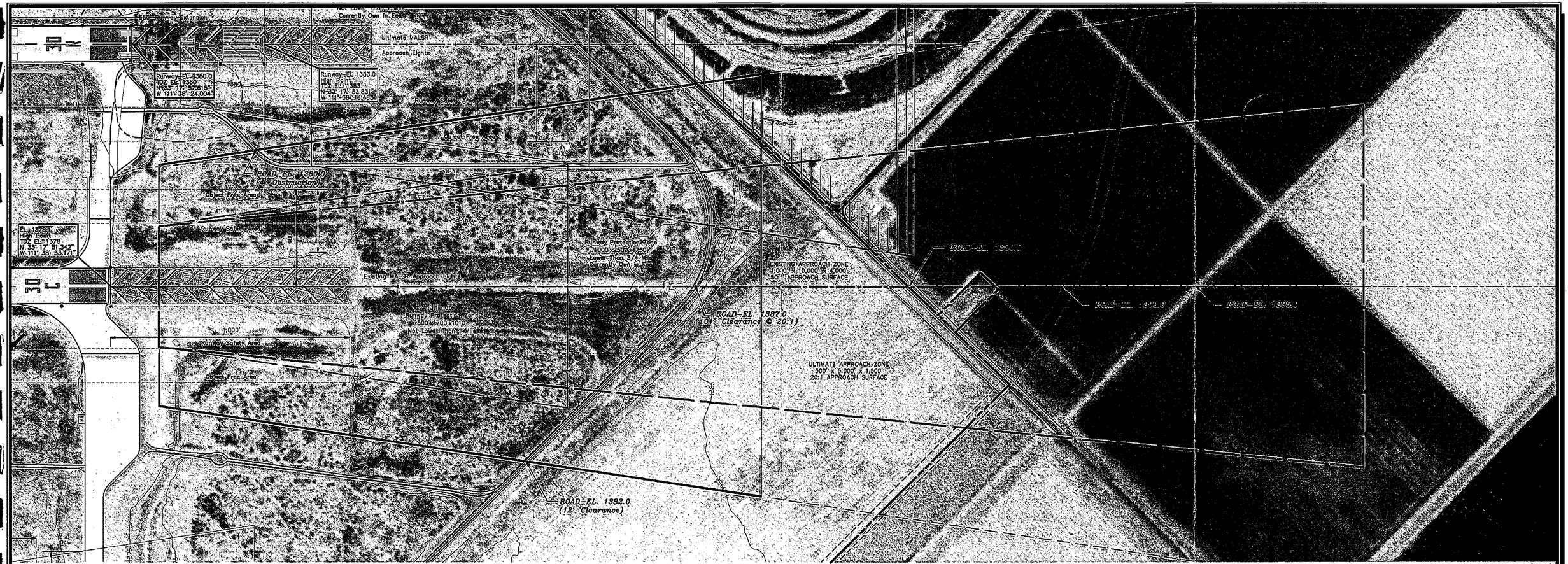
INNER PORTION OF RUNWAY 12C APPROACH SURFACE DRAWING

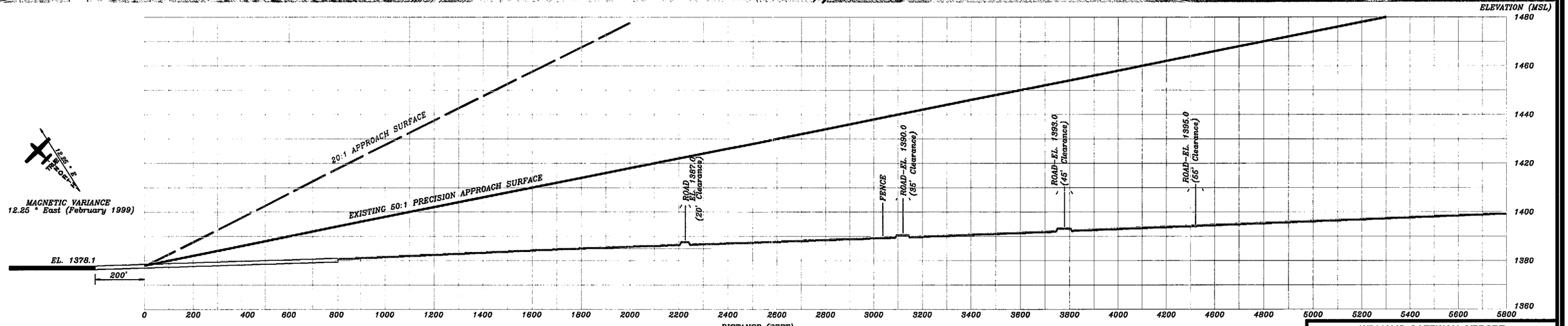
MESA, ARIZONA

PLANNED BY: Christopher M. Hugunin
DETAILED BY: Larry D. Johnson
APPROVED BY: James M. Harris

December 14, 1999 SHEET 8 OF 15

Coffman Associates
Airport Consultants





1826 - E
1999 - E

MAGNETIC VARIANCE
12.25 ° East (February 1999)

RUNWAY END 30C OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
None	–	–	–	–	–

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the primary, transitional, and horizontal Part 77 surfaces, is illustrated on the AIRPORT AIRSPACE DRAWING.
3. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the APPROACH ZONE PROFILES DRAWING.
4. Distance for road obstructions and clearances reflect a safety clearance of 10' for dirt roads or private roads, 15' for noninterstate roads, 17' for interstate roads, and 23' for railroad.

0 20 40
VERTICAL SCALE IN FEET
0 200 400
HORIZONTAL SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
	-	–	–	–

WILLIAMS GATEWAY AIRPORT

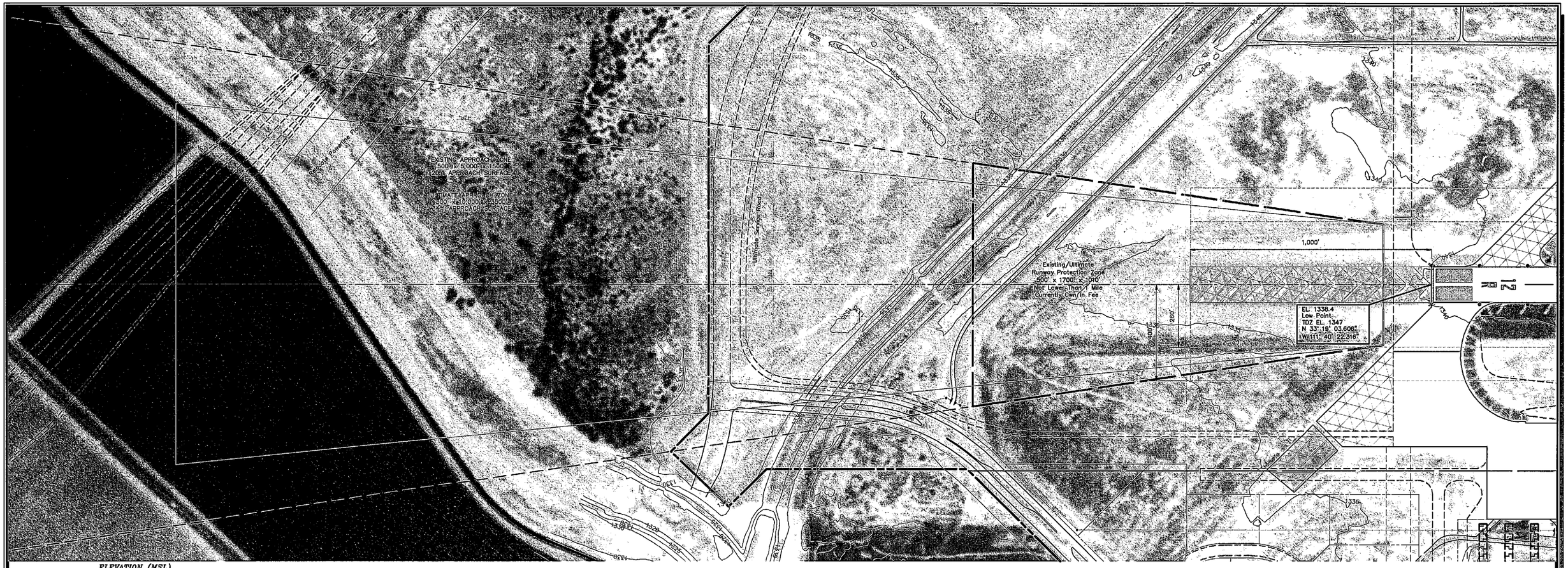
INNER PORTION OF RUNWAY 30C APPROACH SURFACE DRAWING

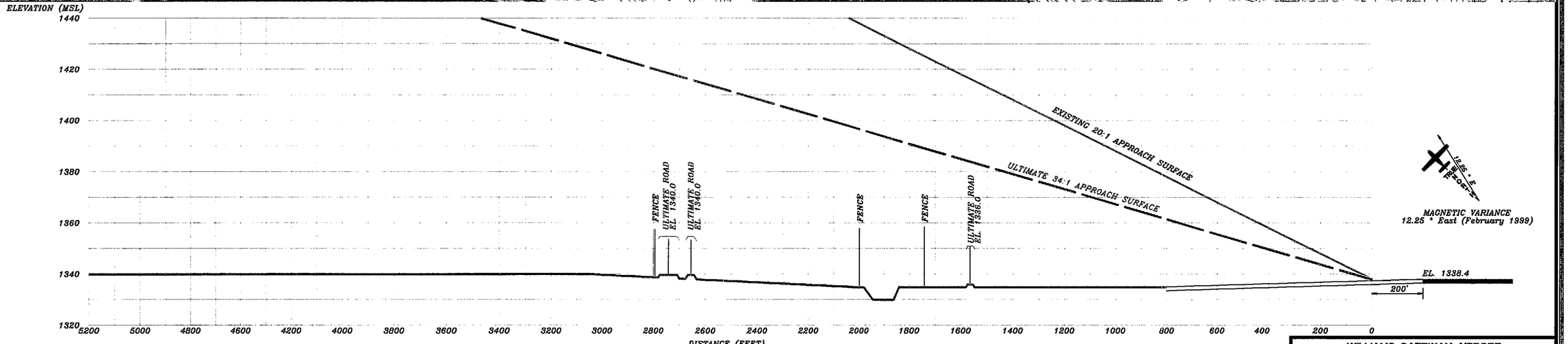
MESA, ARIZONA

PLANNED BY: Christopher M. Huguenin
DETAILED BY: Larry D. Johnson
APPROVED BY: James M. Hoover

December 14, 1999 SHEET 9 OF 15

Coffman Associates
Airport Consultants





MAGNETIC VARIANCE
12.25 ° East (February 1999)

RUNWAY END OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
None	–	–	–	–	–

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the primary, transitional, and horizontal Part 77 surfaces, is illustrated on the AIRPORT AIRSPACE DRAWING.
3. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the APPROACH ZONE PROFILES DRAWING.
4. Distance for road obstructions and clearances reflect a safety clearance of 10' for dirt roads or private roads, 15' for noninterstate roads, 17' for interstate roads, and 23' for railroad.

0 20 40
VERTICAL SCALE IN FEET
0 200 400
HORIZONTAL SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
		–	–	–

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WILLIAMS GATEWAY AIRPORT

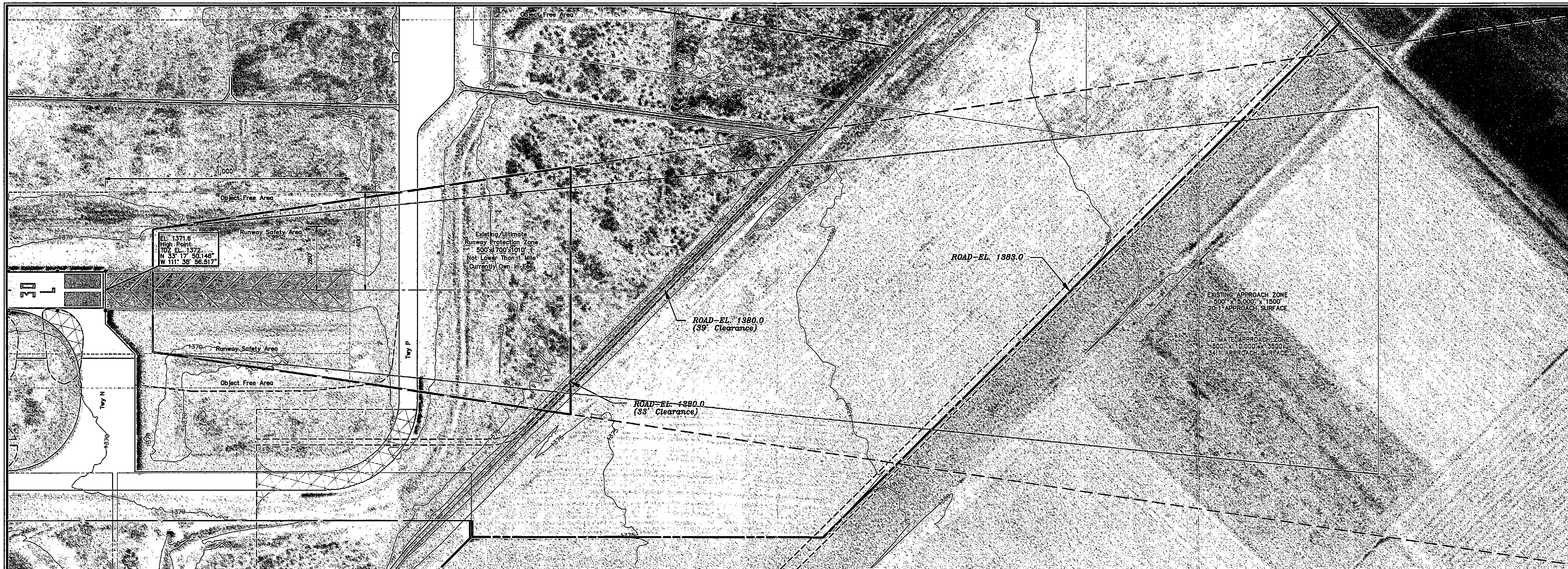
INNER PORTION OF RUNWAY 12R APPROACH SURFACE DRAWING

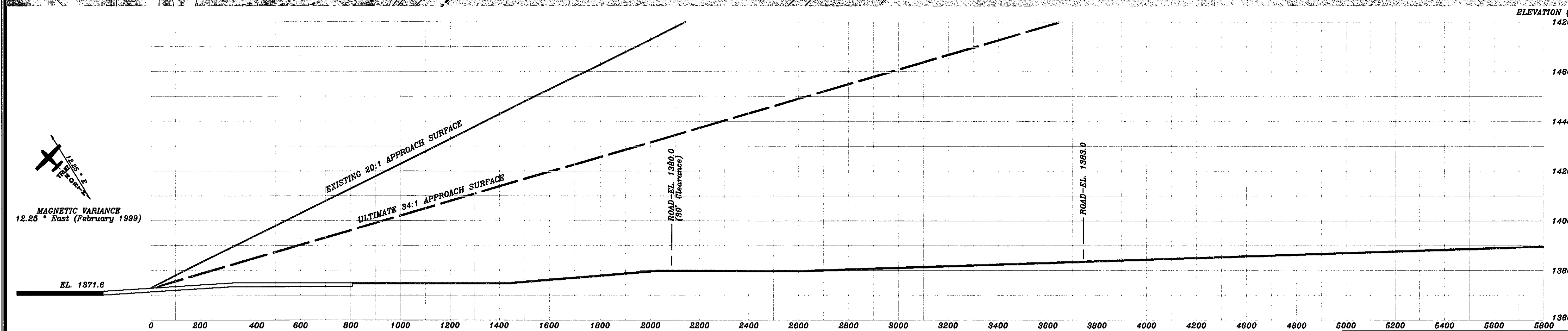
MESA, ARIZONA

PLANNED BY: Christopher M. Huguenin
DETAILED BY: Larry D. Johnson
APPROVED BY: James M. Howe

December 14, 1999 SHEET 10 OF 15

Coffman Associates
Airport Consultants

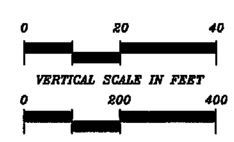




RUNWAY END OBSTRUCTION TABLE					
Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
None	–	–	–	–	–

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the primary, transitional, and horizontal Part 77 surfaces, is illustrated on the AIRPORT AIRSPACE DRAWING.
3. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the APPROACH ZONE PROFILES DRAWING.
4. Distance for road obstructions and clearances reflect a safety clearance of 10' for dirt roads or private roads, 15' for noninterstate roads, 17' for interstate roads, and 23' for railroad.



No.	REVISIONS	DATE	BY	APP'D.
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WILLIAMS GATEWAY AIRPORT

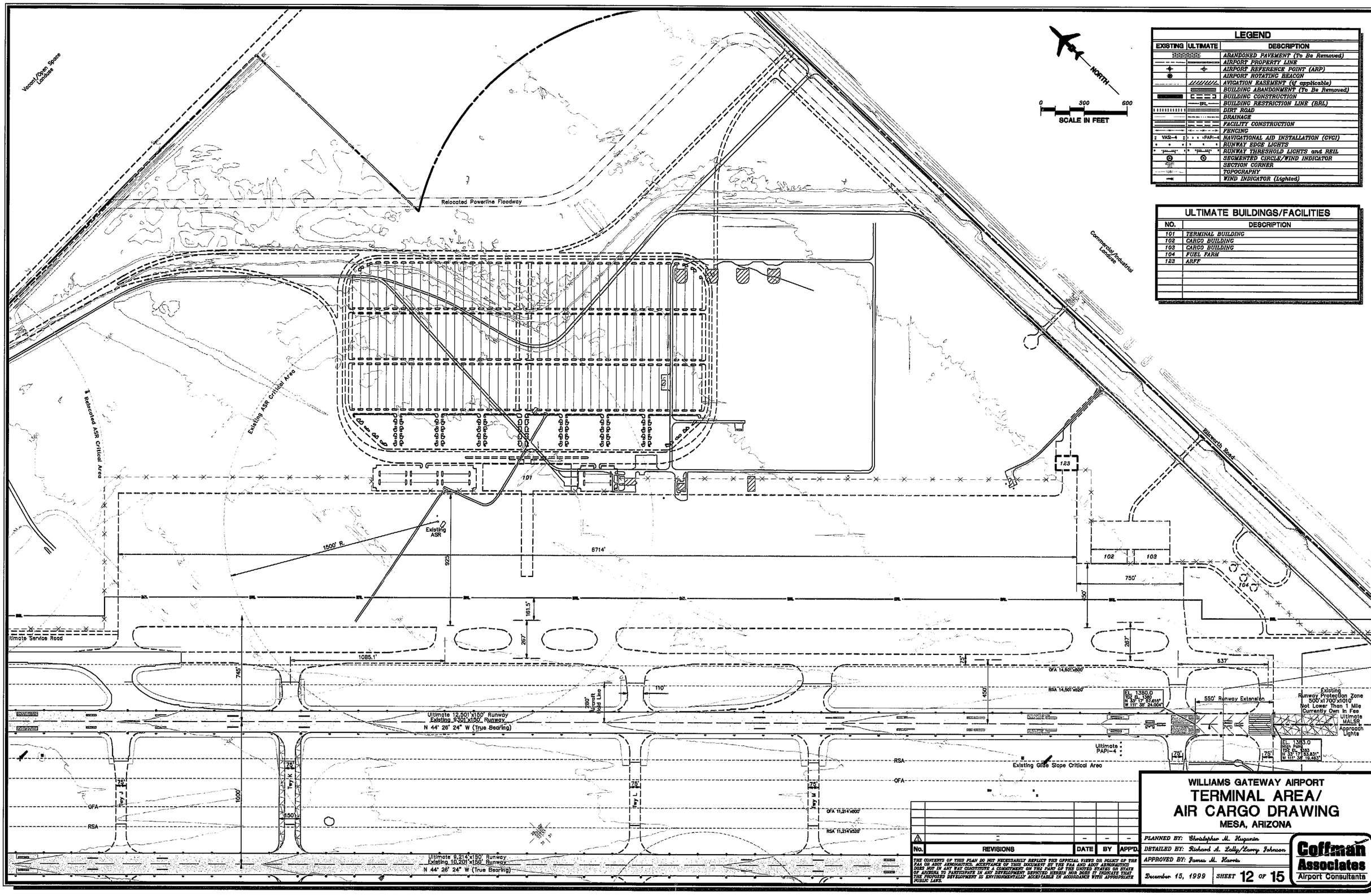
INNER PORTION OF RUNWAY 30L APPROACH SURFACE DRAWING

MESA, ARIZONA

PLANNED BY: Christopher M. Huguenin
DETAILED BY: Larry D. Johnson
APPROVED BY: James M. Harris

December 14, 1999 SHEET 11 OF 15

Coffman Associates
Airport Consultants



LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		ABANDONED PAVEMENT (To Be Removed)
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (if applicable)
		BUILDING ABANDONMENT (To Be Removed)
		BUILDING CONSTRUCTION
	BRL	BUILDING RESTRICTION LINE (BRL)
		DIRT ROAD
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
VASI-4	PAPI-4	NAVIGATIONAL AID INSTALLATION (CVCI)
		RUNWAY EDGE LIGHTS
		RUNWAY THRESHOLD LIGHTS and REIL
		SEGMENTED CIRCLE/WIND INDICATOR
		SECTION CORNER
		TOPOGRAPHY
		WIND INDICATOR (Lighted)

ULTIMATE BUILDINGS/FACILITIES

NO.	DESCRIPTION
101	TERMINAL BUILDING
102	CARGO BUILDING
103	CARGO BUILDING
104	FUEL FARM
123	ARFF

No.	REVISIONS	DATE	BY	APP'D

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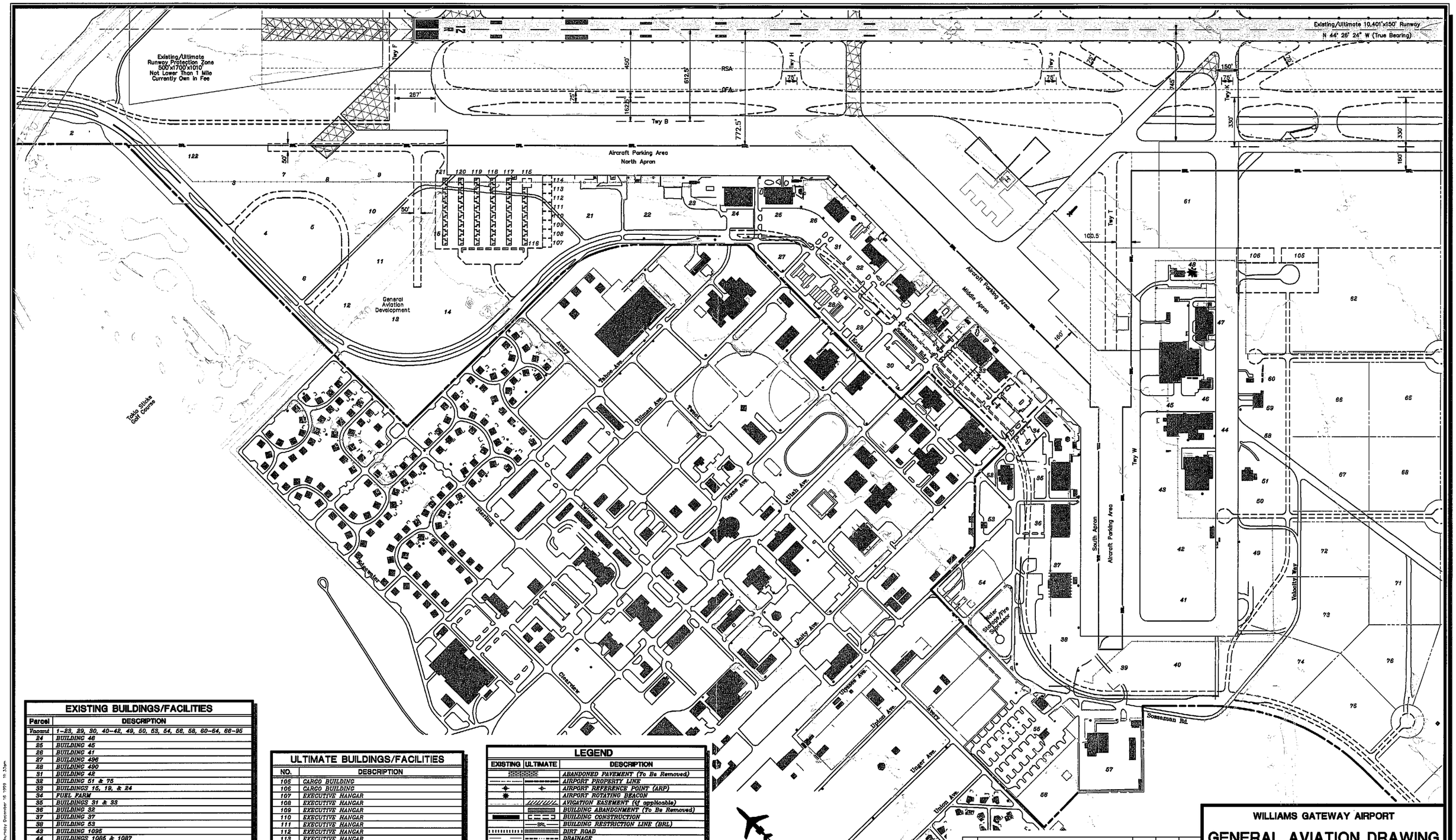
WILLIAMS GATEWAY AIRPORT
TERMINAL AREA/ AIR CARGO DRAWING
MESA, ARIZONA

PLANNED BY: Christopher M. Huguenin
DETAILED BY: Richard A. Lally/Larry Johnson
APPROVED BY: James M. Harris
December 15, 1999

Coffman Associates
Airport Consultants



EXISTING BUILDINGS/FACILITIES

Parcel	DESCRIPTION
Vacant	1-23, 29, 30, 40-42, 49, 50, 53, 54, 56, 58, 60-64, 66-95
24	BUILDING 46
25	BUILDING 45
26	BUILDING 41
27	BUILDING 496
28	BUILDING 490
31	BUILDING 42
32	BUILDING 51 & 75
33	BUILDINGS 15, 19, & 24
34	FUEL FARM
35	BUILDINGS 31 & 33
36	BUILDING 32
37	BUILDING 37
38	BUILDING 53
43	BUILDING 1095
44	BUILDINGS 1065 & 1087
45	BUILDING 1084
46	BUILDING 1086
47	BUILDING 1080
48	BUILDINGS 1081 & 1089
51	BUILDING 1541
52	BUILDING 568
55	AIRFIELD FUEL FARM
57	BUILDING 533
59	BUILDING 1090

ULTIMATE BUILDINGS/FACILITIES

NO.	DESCRIPTION
105	CARGO BUILDING
106	CARGO BUILDING
107	EXECUTIVE HANGAR
108	EXECUTIVE HANGAR
109	EXECUTIVE HANGAR
110	EXECUTIVE HANGAR
111	EXECUTIVE HANGAR
112	EXECUTIVE HANGAR
113	EXECUTIVE HANGAR
114	EXECUTIVE HANGAR
115	COVERED WASH RACK
116	T-HANGAR
117	T-HANGAR
118	T-HANGAR
119	T-HANGAR
120	T-HANGAR
121	T-HANGAR
122	AIRPORT OBSERVATION AREA

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		ABANDONED PAVEMENT (To Be Removed)
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (If applicable)
		BUILDING ABANDONMENT (To Be Removed)
		BUILDING CONSTRUCTION
	BRL	BUILDING RESTRICTION LINE (BRL)
		DIRT ROAD
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
VASI-4	PAPI-4	NAVIGATIONAL AID INSTALLATION (GVGI)
		RUNWAY EDGE LIGHTS
		RUNWAY THRESHOLD LIGHTS and REIL
		SEGMENTED CIRCLE/WIND INDICATOR
		SECTION CORNER
		TOPOGRAPHY
		WIND INDICATOR (Lighted)

No.	REVISIONS	DATE	BY	APP'D.
1	-	-	-	-

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WILLIAMS GATEWAY AIRPORT

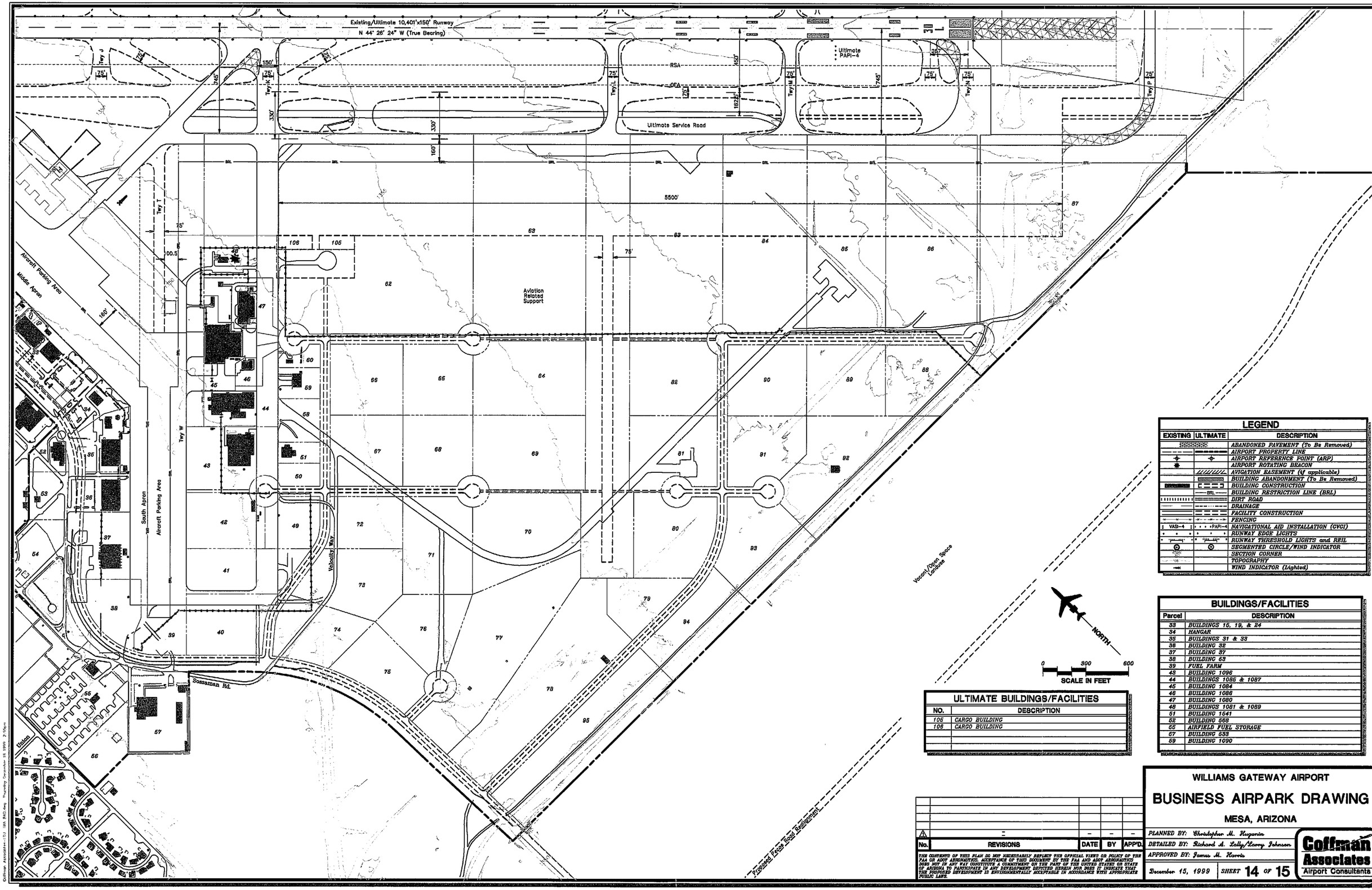
GENERAL AVIATION DRAWING

MESA, ARIZONA

PLANNED BY: Christopher M. Haguewood
DETAILED BY: Richard A. Lolly/Larry Johnson
APPROVED BY: James M. Harris

December 15, 1999 | SHEET 13 OF 15

Coffman Associates
Airport Consultants



LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		ABANDONED PAVEMENT (To Be Removed)
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (if applicable)
		BUILDING ABANDONMENT (To Be Removed)
		BUILDING CONSTRUCTION
	BRL	BUILDING RESTRICTION LINE (BRL)
		DIRT ROAD
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
VAS-4	PAPI-4	NAVIGATIONAL AID INSTALLATION (GVGI)
		RUNWAY EDGE LIGHTS
		RUNWAY THRESHOLD LIGHTS and REIL
		SEGMENTED CIRCLE/WIND INDICATOR
		SECTION CORNER
		TOPOGRAPHY
		WIND INDICATOR (Lighted)

BUILDINGS/FACILITIES

Parcel	DESCRIPTION
33	BUILDINGS 15, 19, & 24
34	HANGAR
35	BUILDINGS 31 & 33
36	BUILDING 32
37	BUILDING 37
38	BUILDING 63
39	FUEL FARM
43	BUILDING 1096
44	BUILDINGS 1085 & 1087
45	BUILDING 1084
46	BUILDING 1086
47	BUILDING 1080
48	BUILDINGS 1081 & 1089
51	BUILDING 1641
52	BUILDING 568
56	AIRFIELD FUEL STORAGE
57	BUILDING 533
59	BUILDING 1090

ULTIMATE BUILDINGS/FACILITIES

NO.	DESCRIPTION
106	CARGO BUILDING
108	CARGO BUILDING

No.	REVISIONS	DATE	BY	APP'D
1	-	-	-	-

WILLIAMS GATEWAY AIRPORT

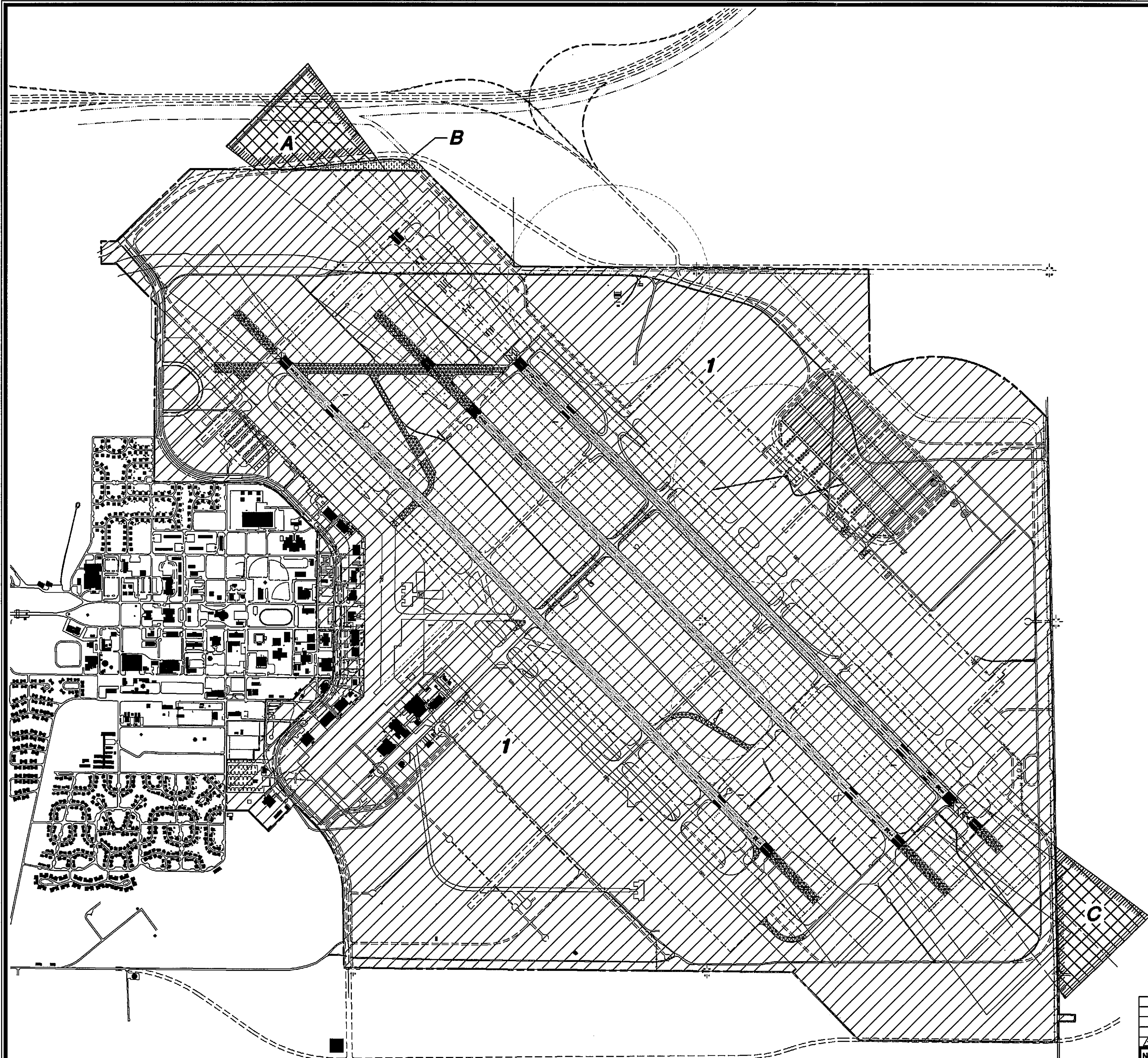
BUSINESS AIRPARK DRAWING

MESA, ARIZONA

PLANNED BY: Christopher M. Huguenin
DETAILED BY: Richard A. Lally/Larry Johnson
APPROVED BY: James M. Harris

December 15, 1999 | SHEET 14 OF 15

Coffman Associates
Airport Consultants

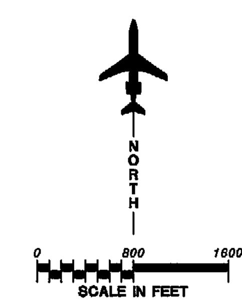


EXISTING PROPERTY DATA

PARCEL NO.	ACREAGE	PROPERTY INTEREST	DATE ACQUIRED
1	3,019	FEE SIMPLE	APRIL 30, 1998(QUIT CLAIM DEED)

FUTURE PROPERTY DATA

PARCEL NO.	ACREAGE	PROPERTY INTEREST
A	42.3	AVIGATION EASEMENT
B	4.7	FUTURE PROPERTY
C	37	AVIGATION EASEMENT



No.	REVISIONS	DATE	BY	APP'D.
1	-	-	-	-

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WILLIAMS GATEWAY AIRPORT

AIRPORT PROPERTY MAP

MESA, ARIZONA

PLANNED BY: Christopher M. Hugunin
DETAILED BY: Richard A. Lally
APPROVED BY: James M. Harris

December 14, 1999

Coffman Associates
Airport Consultants